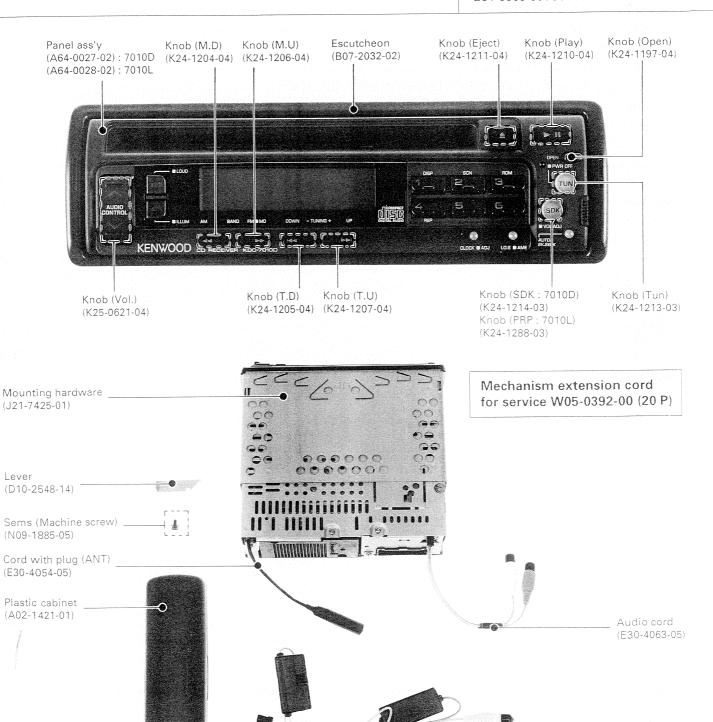
CD RECEIVER

KDC-7010D/L

SERVICE MANUAL

KENWOOD

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*Refer to parts list on page 66. OPTION (TDF-7010D, TDF-7010L)

DC cord (E30-4060-05)

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1 Atto Lio	BACK COVER

TROUBLE SHOOTING

Often, what appears to be a malfunction is due to user error. Before calling for service, please consult the following table.

Symptom	Cause	Remedy
Compact disc cannot be inserted.	A compact disc has already been inserted and you are trying to inserted another disc.	Eject the previously inserted disc and insert another one.
A disc is ejected immediately after being inserted.	The compact disc is inserted upside down. The compact disc is very dirty.	 Insert the disc with the labeled side facing up. Clean the disc (refer to "Cleaning of compact disc").
Even when the required track is specified, the specified track is not played or the player does not function.	The player is set to RANDOM PLAY.	Release RANDOM PLAY.
Sound is skipped by vibrations.	 The compact disc is dirty or damaged. The unit is not installed securely. 	If the sound skips even while the car is stationary, clean the compact disc (refer to "Cleaning of compact disc"). Install the unit securely.
The sound quality is poor due to noise during playback.	 The compact disc is damaged or dirty. The sound recorded in the compact disc itself is poor. 	1. Clean the compact disc (refer to "Cleaning of compact disc"). 2. Try playing another compact disc. If its sound quality is good, the poor sound was due to the disc itself.
No sound one channel.	The balance/fader control is extremely rotated to one side.	Adjust the balance/fader control.
Poor reception.	The antenna is not extended.	Extend the antenna.
Operation switches do not function.	Correct operation is not obtained due to a sudden change in the power voltage, etc.	Press the Reset button of the front panel.

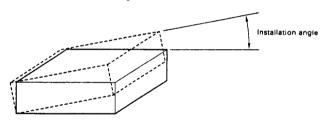
INSTALLATION PROCEDURE

ACAUTION

- A short circuit may cause a blown fuse. A short circuit is a serious problem that could also cause a fire. Check the wiring carefully and, if any wires are short-circuited, rewire immediately. If no short-circuits are found, replace the fuse with one having the same rating (see indication in fuse box).
- Check that no unconnected wires or connectors are in contact with the body of the car. Extraneous noise or current entering the system can cause malfunction or damage.
- To provide more power, this product is equipped with a BTL (Balanced Transformer Less) system. But in this type of system, sharing different speaker terminals or connecting or grounding speaker terminals to the car can cause distortion or damage.

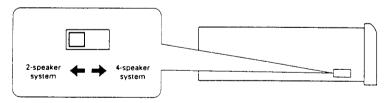
■ Installation Angle

This unit must be installed at an angle of less than 30° from the horizontal.

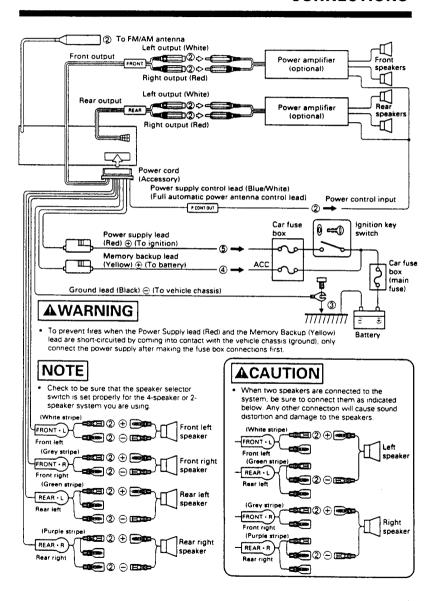


■ Speaker output selector switch.

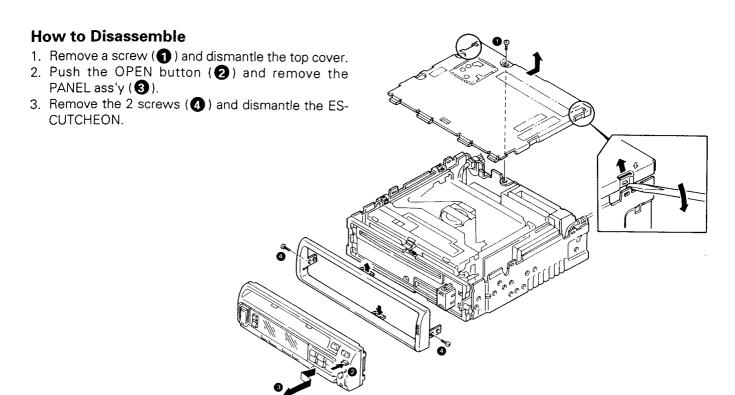
Set the selector switch on the bottom plate according to the speaker system used.



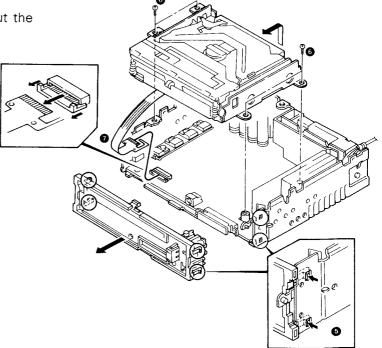
CONNECTIONS



DISASSEMBLY FOR REPAIR

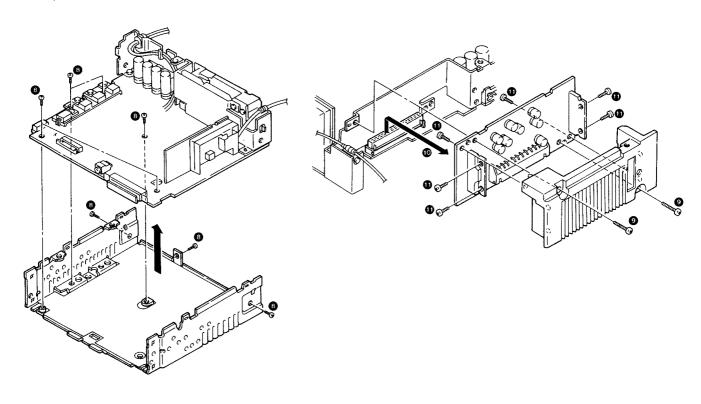


- 4. Disengage the 4 claws (5) and remove SUB PANEL.
- 5. Remove the 4 screws (6).
- 6. Disconnect the connector (7) and take out the MECHANISM ass'y.

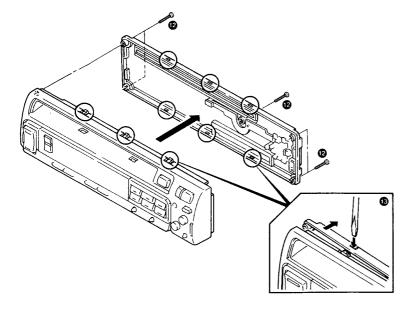


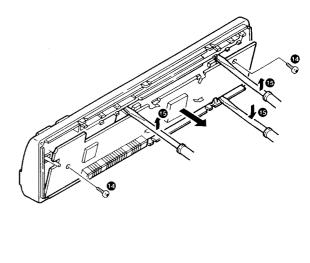
DISASSEMBLY FOR REPAIR

- 7. Remove the 7 screws (3) and dismantle the PCB ass'y.
- 8. Remove the 8 screws (9, 10, 11) and dismantle the HEAT SINK.

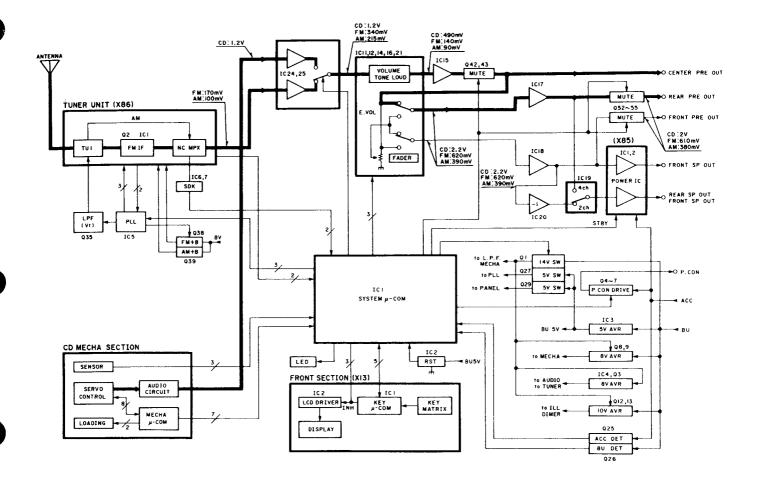


- 9. Remove the 5 screws (2) and remove the REAR cover (3).
- 10.Remove the 2 screws (14) and dismantle the PCB ass'y (15).





BLOCK DIAGRAM



CD mechanism IC8.9 IC 1 IC 2 IC 13, 17 8fs DIGITAL SIGNAL RF AMP SERVO FILTER 1bit D/A **PULSE** AUDIO L,R PICK UP PROCESSOR CONVERTER 1.2V IC 3 IC 1 (X25-) FOCUS TRACKING SLED SPINDLE SYSTEM CONTROL DRIVE **µ-СОМ** IC 5 MECHANISM CONTROL LOADING µ-СОМ SENSOR



1. Description of Components

1-1. SWITCH UNIT (X13-8520-10)

Ref No.	Use and Function	Operation and Condition	
IC1	Кеу µ-СОМ	Key input, data communications.	
IC2	LCD driver	Drives LCD.	
Q2	Q1 driver	ON while P-STOP is "H".	
D1~D8	Clamping diodes	Data line protection.	
D9~D29	Light emitting diodes	Back lighting of keys.	

1-2. ELECTRIC UNIT (X25-7022-XX) -71: KDC-7010D, -72: KDC-7010L

Ref No.	Use and Function	Operation and Condition	
IC1	System μ-COM	Controller	
IC2	Reset IC	Prevention of system controller malfunction.	
IC3	5 V 3-pin regulator	5 V power supply for μ-COM, digital circuitry and mechanism servo.	
		(3-pin IC with low current drain. General products cannot be used.)	
IC4	AVR driver	8 V AVR.	
IC5	PLL	Also switches FM +B, AM +B, AGC (AFC), LO/DX and LW/MW at the output ports.	
IC6	SDK IC	SDK demodulation.	
IC7	SDK circuit	Composite signal buffer and BPF.	
IC10	1/2 Vcc buffer	Outputs 1/2 of 8 V for use as the reference voltage of audio circuitry.	
IC11, IC12	Tone amp, simulated inductor	Tone boosting and cutting. Forms the inductor of treble circuit.	
IC14	Simulated inductor	Forms the inductor of bass circuit.	
IC15	Fader buffer	Voltage-follower.	
IC16	Volume buffer	Voltage-follower.	
IC17, IC18	Pre-amp	Pre-amplifier and power amplifier input.	
IC19	Analog SW (2CH/4CH switching)	In 2CH operation, switches to the front signal inverted by IC20.	
		In 4CH operation, switches to the rear signal.	
IC20	Inverter amp	In 2CH operation, functions as the inverter amp to send the inverted front signal	
		to the power amp input.	
IC21	Electronic volume/tone IC	Tone, loudness, volume, balance and fader control.	
IC24, IC25	CD/TUNER SW	Switched signals between CD and tuner.	
		Also determines the level distribution between CD and tuner.	
Q1	Switches	14.4 V in interlocked operation with P-ON of μ-COM.	
Q2	SW 14V ON/OFF	Turns Q2 ON/OFF.	
Q3	AVR	8 V output.	
Q4	P-CON	P-CON/P-ANT driver.	
Q5,6	P-CON	P-CON protection.	
Q7	P-CON ON/OFF	Turns Q4 ON/OFF.	
Q8, Q9	Servo +B AVR	7.6 V servo power output.	
Q12, Q13	Illumination AVR	10.5 V illumination power output.	
Q16, Q17 Illumination SW Switches between amber and green. (With the KDC-7000, 7100, 7010		Switches between amber and green. (With the KDC-7000, 7100, 7010D and 7010L,	
		Q16 and 17 also act to turn the illumination ON/OFF.)	
Q21, Q22	Reset	When RESET SW on the panel is pressed, resets μ-COM by setting its RESET terminal to "L".	
Q23	Reset muting	When RESET SW on the panel is pressed, turns Q41 ON to mute sound to prevent shock noise	

Ref No.	Use and Function	Operation and Condition	
Q24	Amp standby	Turns ON/OFF the standby terminal of the power IC for built-in amps.	
Q25	Acc detect	Collector goes "L" when Acc is switched ON.	
Q26, Q48	BU detect	Collector is "L" except during reduced-power operation with BU power connected.	
Q27	SW 5 V	Switches 5 V in interlocked operation with SW 5 V of μ-COM.	
Ω28	MONO/ST SW	When forced mono operation is turned ON, switches the tuner IC for monaural reception.	
Ω29	Panel 5 V	Switches the 5 V power for panel μ-COM in interlocked operation	
		with PAN-CON of μ-COM. Turned ON when the panel is attached.	
Q30	Panel SW	Detects whether the panel is attached or not. Collector goes "H" when the panel is attached.	
Q31	FM SD output detect	"L" during reception.	
Q32	AM SD output detect	'L' during reception	
Q33	FM muting output	Inhibits the S meter output when FM muting is output.	
Q34	FM S meter buffer	Emitter-follower.	
Q35	LPF	Used for both FM/AM.	
Q36	AFC SW	Collector goes "L" during seek.	
Q37	LW/MW SW	Collector is "H" during MW reception.	
Ω38	FM + B ON/OFF	ON in FM mode.	
Q39	AM + B ON/OFF	ON in AM mode.	
Q40	FM muting output	Sets SK "L" when FM muting is output.	
Q41	Muting driver	Collector is "H" when muting is turned ON.	
Q42, Q43	Muting	Audio muting. Muting of built-in amps is applied only with Q42 and Q43.	
Q46	Panel reset	When the panel is attached, sends reset pulse "L" to panel μ-COM.	
Q47	2CH/4CH SW	Analog switch control. Collector is "H" during 2CH operation.	
Q49	Momentary power-failure muting	In case of momentary power failure, turns Q41 ON to apply muting to prevent shock noise.	
Q52~Q55	Muting	Audio muting of pre-out signals.	
D1, D2	Inverse connection protect	Protection diode to prevent reverse current flow to GND	
		in case of inverse connection of BU with D1 or Acc with D2.	
D3	Reverse flow prevention	To prepare for the case in which the receiving side of P-ANT has a capacitance.	
D4	Discharge	Discharges C24 to release P-CON protection.	
D5	Reverse flow prevention	Prevents reverse flow to prevent 5 V power from dropping in case of momentary power failure.	
D6	Reference voltage	Reference voltage for servo +B AVR.	
D7	Reference voltage	Reference voltage for illumination +B AVR.	
D8	LED	Flashes when the panel is detached or the simulated security function is activated.	
D9	Constant voltage	Constant voltage for power to LPF.	
D10	Level shift	Sets the Acc detection threshold level.	
D11	Discharge	Discharges C17 to provide a difference in the time constant for turning detection ON/OFF.	
D12	Level shift	Sets the BU detection threshold level.	
D13	Discharge	Discharges C18 to provide a difference in the time constant for turning detection ON/OFF.	
D14	Static protection	Protects static electricity from applying reset.	
D15~D22	Static protection	Protect μ-COM from malfunctioning due to static electricity generated on the panel	
		connector pins when the panel is detached.	
D23	Temperature compensation	Temperature compensation for SD detection (AM).	
D24, D27	Leakage prevention	Prevention against current leaked at the base of the muting transistor.	
D28		-	

1-3. CD PLAYER UNIT (X32-2340-00)

Ref No.	Dvice	Use and Function	Operation and Condition
IC1	TA8191F	RF amp	RF signal generation, focusing & tracking servo.
IC2	TC9236AF	Signal processor	EFM demodulation, error detection & correction, audio data output, disc motor servo
			focusing & tracking servo control, search control.
IC3	AN8388SR	Actuator driver	Drives focusing, tracking, sled, spindle and actuator.
IC5	TA7291F	Motor drive	Loading and ejection control.
IC6	7500GB-696-3B4	μ-com	CD mechanism control.
IC7	SM5871AS	D/A converter	1-bit digital to analog converter.
IC8, IC9	NJM5532MD	Low-pass filter	
IC11	TA78L05F	3-terminal regulator	Generates +5V for audio circuitry.
IC12, IC16	TC7SU04F	Inverter	Inverts LRCK.
IC13, IC17	TC74C04F	Inverter	Audio pulse output buffer.
Q1	2SB624 (BV3)	Laser power control	
Q2	2\$A1037K	Temperature detector	
G 3	DTC124EK	Spindle gain SW	ON with 8cm disc, OFF with 12cm disc.
Q4	2SC2412K	Focusing error hold	Upon detection of scratch, goes ON to hold focusing error.
Q5	DTA124EK	Scratch detect pulse	Level conversion of disc scratch detection pulse.
Ω7	DTC114YK	Gain SW	Switches low-frequency gain of tracking servo between play and search modes.
Ω8	DTC114YK	Logic inverter	Inverts μ-com output logic control Q7.
Ω9	2SA1037K	Reference potential	Generates 4.2V in collaboration with TA8191F.
		generation	
Q10	2SC2412K	Gain SW	Controls high-frequency gain of tracking servo.
Q11	DTC114YK	Gain SW	Reduces tracking servo upon detection of scratch.
Q12	DTC124EK	Clock SW	Turns 16MHz master clock ON/OFF.
Q13	2SA1362 (Y)	+5V SW	Turns +5V for servo/digital circuitry ON/OFF.
Q14	2SD1624	Regulator	Generates +9V for audio circuitry.
Ω15	DTA124EK	Audio muting control	Drives Q16 and Q17 based on level conversion of muting signal from μ-com.
Q16, Q17	2SD1757K	Audio muting	
Q18	DTC124EK	PLL control	Upon detection of scratch, sets PLL phase comparator output to Hi-Z.
Q19	DTC124EK	D/A reset	Releases reset of D/A convertor in synchronism with the rise of master clock.
Q20	DTC124EK	Emphasis SW	Inverts the logic of emphasis control output from IC2.

1-4. POWER AMP UNIT (X85-3000-10)

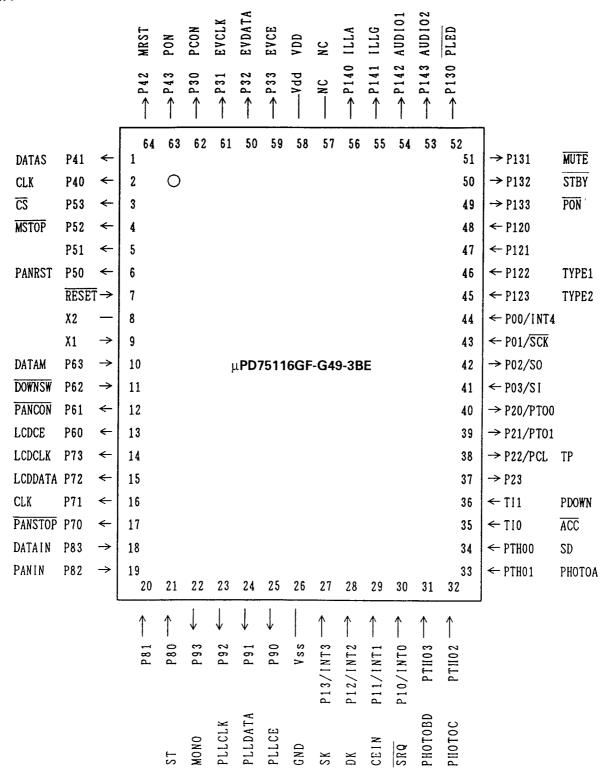
Ref No.	Use and Function	Operation and Condition				
IC1, IC2	Power amp					

1-5. TUNER UNIT (X86-3012-XX) -71 : KDC-7010D, -72 : KDC-7010L

Ref No.	Use and Function	Operation and Condition
IC1	FM processor	
Q1	LOCAL/DX SW	ON for local seek.
Q3	1st-stage AM AGC	ON during seek.
Q4	2nd-stage AM AGC	Q4 is turned ON when Q3 goes ON.
Q5	Muting	ON during tuner reception

2. System Control μ -com : μ PD75116GF-G49-3BE (IC1, X25-)

2-1. Pin connection



CIRCUIT DESCRIPTION

2-2. Pin function

Pin No.	Name	Also Used As	1/0	Signal name	Function
1	P41		0	DATAS	Serial data output to CD mechanism controller.
2	P40		0	CLK ·	Synchronization clock for communications
					with CD mechanism controller.
3	P53		0	CS	Handshake request to CD mechanism controller. "L" for requesting.
4	P52		0	MSTOP	CD mechanism controller stop output. "L" for stop.
5	P51		0		Not used. Open.
6	P50		0	PANRST	Panel μ-COM reset output. "H" for reset.
7	RESET			RESET	μ-COM system reset input. "L" when reset.
8	X2		-	Xtal	4.19 MHz oscillator connection terminal.
9	X1		1	Xtal	4.19 MHz oscillator connection terminal.
10	P63		1	DATAM	Serial data input from CD mechanism controller.
11	P62		1	DOWNSW	DOWN switch input from CD mechanism controller. "L" when down.
12	P61		0	PANCON	Panel power supply control output. "L" for ON.
13	P60		0	LCDCE	Chip Enable output to LCD driver.
14	P73		0	LCDCLK	Serial sync clock to LCD driver.
15	P72		0	LCDDATA	Serial data output to LCD driver.
16	P71	,	0	CLK	Sync clock output to panel μ-COM.
17	P70		0	PANSTOP	Stop output to panel μ-COM. "L" for stop.
18	P83		-	DATAIN	Key data input from panel μ-COM.
19	P82		-	PANIN	Panel attaching detection input. "H" when attached, "L" when detached.
20	P81		- 1		Not used. Connected to GND.
21	P80		- 1	ST	Stereo input. "H" for stereo.
22	P93		0	MONO	Forced mono output. "H" for monaural.
23	P92		0	PLLCLK	Sync clock output to PLL IC.
24	P91		0	PLLDATA	Serial data output to PLL IC.
25	P90		0	PLLCE	Chip Enable to PLL IC.
26	Vss		-	GND	Connected to GND.
27	P13	INT3	1	SK	SK input. "H" for SK present (D type only).
28	P12	INT2	- 1	DK	SK input. "H" for DK present (D type only).
29	P11	INT1	1	CEIN	Key data send request input from panel μ-COMʃ (positive going) for requesting.
30	P10	INTO	1	SRO	Handshake request from CD mechanism controller.
					(negative going) for requesting.
31	PTH03		1	PHOTOBD	Photosensor input "BD" from CD mechanism controller.
					"H" when photo-sensor is blocked.
32	PTH02		ı	PHOTOC	Photosensor input "C" from CD mechanism controller.
					"H" when photo-sensor is blocked.
33	PTH01		1	PHOTOA	Photosensor input "A" from CD mechanism controller.
					"H" when photo-sensor is blocked.
34	PTH00		1	SD	Station detection input. "H" when station is detected.
35	TIO		1	Acc	Acc detection input. "L" when Acc is ON, "H" when Acc is OFF.
36	TI1		ı	PDOWN	Reduced power detection input BU voltage monitoring.
					"H" when power is reduced.
37	P23		0		Not used.
38	P22	PCL	0	TP	Clock adjustment test point output. 524 kHz output.
39	P21	PTO1	0		Not used.
40	P20	PTO3	0		Not used.

Pin No.	Name	Also Used As	1/0	Signal name	Function
41	P03	SI	I		Not used.
42	P02	SO	0		Not used.
43	P01	SCK			Not used.
44	P00	INT4	-		Not used.
45	P123		1	TYPE2	Destination setting 2.
46	P122		1	TYPE1	Destinations setting 1.
47	P121		-		Not used.
48	P120		- 1		Not used.
49	P133		0	PON	5 V power control. "L" for ON.
50	P132		0	STBY	Not used. Open.
51	P131		0	MUTE	Muting output. "L" for ON.
52	P130		0	PLED	Panel detached alarm LED output. "L" for ON.
53	P143		0	AUDIO2	Audio source selection 2.
54	P142		0	AUDIO1	Audio source selection 1.
55	P141		0	ILLG	Illumination (green). "L" for ON.
56	P140		0	ILLA	Illumination (amber), *L* for ON.
57	NC		-	-	Connected to +5 V.
58	VDD		-	VDD	+5 V power supply terminal.
59	P33		0	EVCE	Chip Enable output to electronic volume IC.
60	P32		0	EVDATA	Serial data output to electronic volume IC.
61	P31		0	EVCLK	Sync clock output to electronic volume IC.
62	P30		0	PCON	Power control output. "H" for ON.
63	P43		0	PON	Power ON (+14 V line) control output. "H" for ON.
64	P42		0	MRST	Reset output to CD mechanism controller. 'L' for reset.

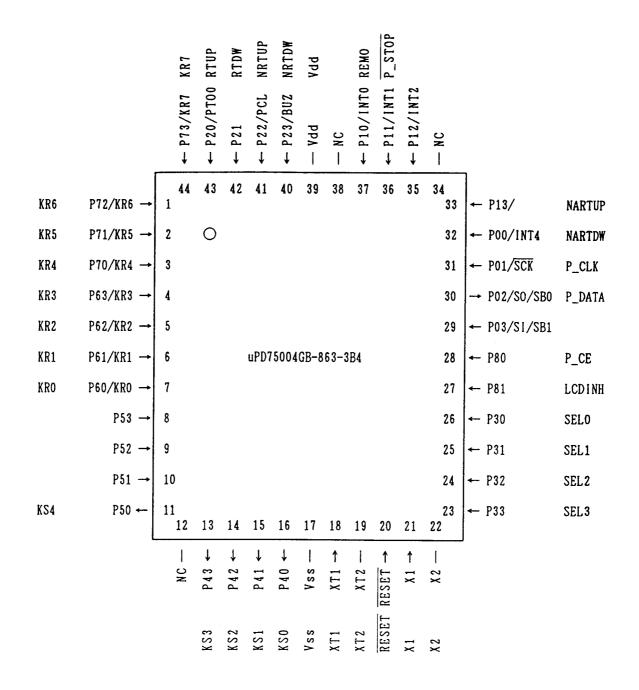
2-3. Destination setting

Model	TYPE1 (pin 46)	TYPE2 (pin 45)
KDC-7010D	Н	Н
KDC-7010L	Н	L

CIRCUIT DESCRIPTION

3. Panel μ -com : μ PD75004GB-863-3B4 (IC1, X13-)

3-1. Pin connection



3-2. Pin function

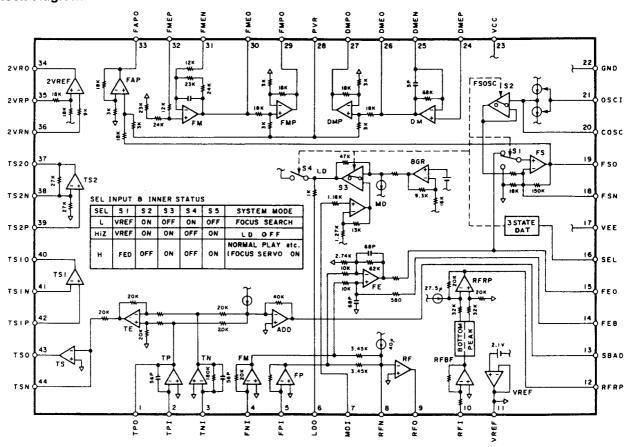
Pin No.	Name	Also Used As	1/0	Signal name	Function
1	P72	KR6	-	KR6	Key return 6. Not used.
2	P71	KR5	ı	KR5	Key return 5. Not used.
3	P70	KR4	ı	KR4	Key return 4.
4~7	P63~P60	KR3~KR0	ı	KR3~KR0	Key return 3~0.
8~10	P53~P51		I	_	Not used. Connected to +5 V.
11	P50		0	KS4	Key scan 4.
12	NC		_		
13~16	P43~P40		0	KS3~KS0	Key scan 3~0.
17	Vss		_	Vss	Connected to GND.
18	XT1		ı	XT1	Connected to GND.
19	XT2		_	XT2	Open.
20	RESET		1	RESET	μ-COM reset input.
21	X1		1	X1	4.19 MHz oscillator connection terminal.
22	X2		-	X2	4.19 MHz oscillator connection terminal.
23	P32		1	SEL3	Function selection check terminal. Connected to "L".
24~26	P33~P30		1	SEL2~SEL0	Function selection check terminal. Connected to "H".
27	P81		1	LCDINH	LCD driver inhibit.
28	P80		ı	P-CE	Key data transfer request output.
29	P03	SI/SB1	1	_	Not used. Connected to GND.
30	P02	SO/SB0	0	P-DATA	Key data output.
31	P01	SCK	ı	P-CLK	Key data sync clock output.
32	P00	INT4	Ī	NARTDW	Not used. Connected to GND.
33	P13	TIO	ı	NARTUP	Not used. Connected to GND.
35	P12	INT2	1	-	Not used. Connected to GND.
36	P11	INT1	1	P-STOP	Stop input. "L" to stop.
37	P10	INT0	1	REMO	Remote control input.
38	NC		_		Not used. Connected to +5 V.
39	VDD		_	VDD	+5 V power supply terminal.
40	P23	BUZ	Ī	NRTDW	Not used. Connected to GND.
41	P22	PCL	1	NRTUP	Not used. Connected to GND.
42	P21		ı	RTDW	Not used. Connected to GND.
43	P20	PTO0	1	RTUP	Not used. Connected to GND.
44	P73	KR7	-	KR7	Key return 7. Not used.

3-3. Key matrix

Key Scan	K S 4	K S 3	KS2	KS1	KS0
KR0	TUNER PWR	ATT ■ ILL	∢ AM	AUTO	PRESET []
KR1	EJECT ▲	-	FM 🕪	LOCAL. S AME	PRESET 2
KR2		AUDIO ■ LOUD	i∢ down	CLOCK	PRESET 3
KR3	CD ▶II	V. UP 🔨	UP))	PRP/SDK	PRESET 4
KR4	-	V. DOWN 🗸	PRESET 6	_	PRESET 5

4. RF Amp/Servo : TA8191F (IC1, X32-)

4-1. Block diagram



4-2. Pin function

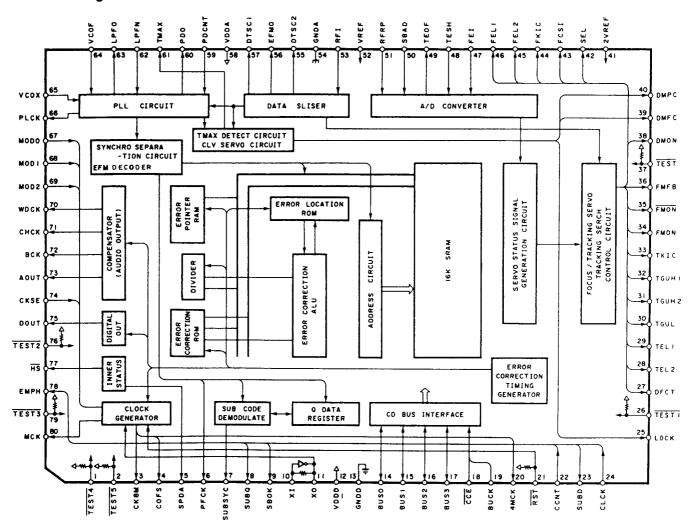
Pin No.	Symbol	1/0	Function	Remark
1	TPO	0	Sub-beam I-V amp (TP AMP) output terminal.	Connected to TPI via adjustment feedback resistor.
2	TPI		Sub-beam I-V amp (TP AMP) input terminal.	Connected to PIN diode F.
3	TNI		Sub-beam I-V amp (TN AMP) input terminal.	Connected to PIN diode E.
4	FNI	i	Main beam I-V amp (FN AMP) input terminal.	Connected to PIN diode A + C.
5	FPI	1	Main beam I-V amp (FP AMP) input terminal.	Connected to PIN diode B + D.
6	LDO	0	Laser diode amp (LD AMP) output terminal.	Connected to laser diode circuit.
7	HDI	1	Monitor photodiode amp (MP AMP) input terminal.	Connected to monitor photodiode.
8	RFN	1	RF amp (RF AMP) inverted input terminal.	Connected to RFO via feedback resistor.
9	RFO	0	RF amp (RF AMP) output terminal.	
10	RFI	1	RF ripple signal generator input terminal.	Connected to RFO via CR.
11	VREF	0	Reference voltage output terminal (+2.1V).	
12	RFRP	0	RF ripple signal output terminal.	·
13	SBAD	0	Scratch detect signal output terminal.	
14	FEB	1	Focusing error balance adjustment input terminal.	Semi-fixed resistor for adjustment is connected.
15	FEO	0	Focusing error amp (FE AMP) output terminal.	Resistor for gain adjustment is connected.
16	SEL	1	Analog switch control signal input terminal.	
17	VEE	-	Power supply terminal.	Connected to GND.
18	FSN	1	Focus output amp (FS AMP) inverted input terminal.	Connected to FSO via feedback CR.
19	FSO	0	Focus output amp (FS AMP) output terminal.	
20	cosc	0	Capasitor connection terminal for focus search signal	CR are connected.
			generation.	

CIRCUIT DESCRIPTION

Pin No.	Symbol	1/0	Function	Remark
21	OSCI	1	Built-in current supply control input terminal for focus	
			search signal generation.	
22	GND	-	Ground terminal.	
23	Vcc	-	Power supply terminal (+5V).	
24	DMEP		Disc motor amp (DM AMP) input terminal.	
25	DMEN		Disc motor amp (DM AMP) inverted input terminal.	
26	DMEO	0	Disc motor amp (DM AMP) output terminal.	
27	DMPO	0	Disc motor drive amp (DM AMP) output terminal.	
28	PVR	. 1	Drive amp reference voltage input terminal.	Connected to VREF.
29	FMPO	0	Feed motor drive amp (FMP AMP) output terminal.	
30	FMEO	0	Feed motor amp (FM AMP) output terminal.	
31	FMEN	1	Feed motor amp (FM AMP) inverted input terminal.	
32	FMEP	- 1	Feed motor amp (FM AMP) input terminal.	
33	FAPO	0	Focus actuator drive amp (FMP AMP) output terminal.	
34	2VRO	0	2VREF amp (2VREF AMP) output terminal.	Connected to 2VRP via external output Tr.
35	2VRP	1	2VREF amp (2VREF AMP) input terminal.	
36	2VRN	1	2VREF amp (2VREF AMP) inverted input terminal.	
37	TS2O	0	Tracking servo amp 2 (TS2 AMP) output terminal.	
38	TS2N	1	Tracking servo amp 2 (TS2 AMP) inverted input terminal.	
39	TS2P	1	Tracking servo amp 2 (TS2 AMP) input terminal.	
40	TS1O	0	Tracking servo amp 1 (TS1 AMP) output terminal.	
41	TS1N	1	Tracking servo amp 1 (TS1 AMP) inverted input terminal.	Connected to TS1O via feedback CR.
42	TS1P	- 1	Tracking servo amp 1 (TS1 AMP) input terminal.	
43	TSO	0	Tracking output amp (TS AMP) output terminal.	
44	TSN	I	Tracking output amp (TS AMP) inverted input terminal.	Connected to TSO via feedback CR.

5. Signal Processor: TC9236AF (IC2, X32-)

5-1. Block diagram



5-2. Pin function

Pin No.	Symbol	1/0	Function	Remark
1	TEST4	I	Test pin. Normally "H" or Open.	With pull-up resistor.
2	TEST5	1	Test pin. Normally "H" or Open.	With pull-up resistor.
3	CK8M	0	8M clock output terminal.	
4	COFS	0	Correction frame cycle signal output terminal. 7.35kHz.	
5	SPDA	0	Processor status signal output terminal. Correction processing check result, memory buffer capacity, etc.	
6	PFCK	0	Playback frame cycle signal output terminal. 7.35kHz.	
7	SUBSYC	0	Subcode sync signal output terminal.	
8	SUBQ	0	Subcode Q data output terminal.	
9	SBOK	0	Subcode Q data CRC check result output terminal. "H" when check result is OK.	
10	XI	1	X'tal resonator connection terminals.	
11	XO	0	X'tal resonator connection terminals.	
12	VDDD	-	Digital power supply terminal (+5V).	
13	GNDD	-	Digital grounding terminal.	
14	BUS0	1/0	Command and data send / receive I/O terminals.	Schmitt inputs.
17	BUS3	1/0	Command and data send / receive I/O terminals.	Schmitt inputs.
18	CCE	1	Command and data send / receive Chip Enable signal input terminal. "L" for making the bus line active.	

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CIRCUIT DESCRIPTION

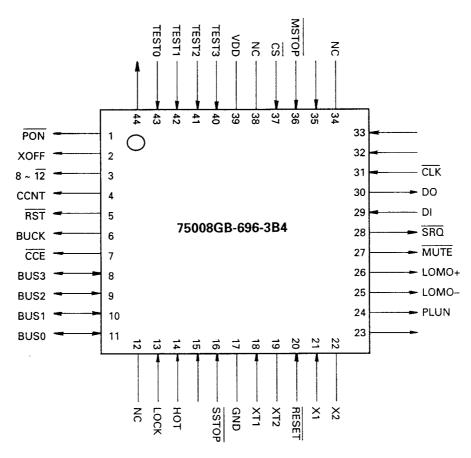
Pin No.	Symbol	1/0				Function		Remark	
19	BUCK	1	Command and	data send / rece	ive clo	ck input terminal.			
20	4MCK	0	4M clock outpu	ut terminal (4.23)	36MHz				
21	RST	1	Reset input terminal. "L" for internal system reset.					With pull-up resistor.	
22	CCNT		Subcode Q dat	a control bit upd	ate inh	bit signal input terminal.		Emphasis, copy and	
			"H" for inhibiting	channel information.					
23	SUBD	0	Subcode P - W	Subcode P – W output terminal.					
24	CLCK	ı		Subcode P – W data read clock input terminal.					
25	LOCK	0	Lock status out	tput terminal. Go	es 'L' v	vhen the sync pattern in EFM signal of	overrun		
			detection data	has not been det	ected	for 17ms.			
26	TEST1	1	Test pin. Norma	ally "H" or OPEN.				With pull-up resistor.	
27	DFCT	0				REF when detect is detected, HiZ in no	rmal case		
28, 29	TEL2, 1	0				output terminals. VREF or HiZ.			
30	TGUL	0				ching the tracking servo loop phase co	mpensa-		
			_	•		shock is detected, VREF in normal case.			
31	TGUH2					ching the tracking servo loop phase co			
		0				gain) when a shock is detected, VREF in	1		
32	TGU1					playback, and TGUH2 is used in double	i		
			playback.		ороса	ployback, and recentable about in double	Ээроос		
33	TKIC	0		or kick signal out	out ter	minal. "H" for kicking toward the outer	edge		
-	-			toward the inner		mind. The kinding tottal a the cater	ougo.		
34	FMON		-			tching feed servo ON / OFF.			
		0	Feed servo	FMON		MON Serve Sitty Sitty			
35	FMON		ON	HiZ	 	VREF			
00			OFF	VREF	-	HiZ			
36	FMFB	0		<u> </u>	ontrol			3-level output.	
00			Feed motor FWD / BWD feed control signal output terminal. "H" for feed toward the outer edge. "L" for feed toward the inner edge.				5-level outpat.		
37	TEST			ally "H" or OPEN.	go. L	To rece toward the initial edge.		With pull-up resistor.	
38	DMON	0			or swit	ching the disc motor driver gain.		vviii pan-ap resistor.	
	D IIIOIT			/ servo AFC sign					
			Command	DMFC output	l outp	Operation		3-level output.	
39	DMFC	0	DMFK	H	Mot	or acceleration		3-level output.	
00	DIVITO		DMSV	PWH	 	_V servo ON			
			DMBK		-				
			DMOFF	\/nss		or deceleration V servo OFF			
40	DMPC			VREF				0.1	
41		0		/ servo APC sign				3-level output.	
	2VREF			ce voltage input t					
				lect signal outpu					
40	051		SEL LD ON /		_	Operation mode			
42	SEL	0	L OFF			LD OFF		3-level output.	
			HiZ ON			Focusing search			
			H ON			Normal play			
					ut term	inal for focus search mode.			
			Command	FCSI output		Operation			
43	FCSI	0	FORST	ST H Lens gets apart from disc.			3-level output.		
			FOSET	L		Lens gets closer to disc.			
			Other	HiZ	Other	operation than focus search.	1		

CIRCUIT DESCRIPTION

Pin No.	Symbol	1/0			Function	Remark			
-		Focus actuator drive signal output terminal for focus gain adjustment mode.		out terminal for focus gain adjustment mode.					
			Other	HiZ	Other operation than focus search.				
			Command	FKIC output	Operation				
44	FKIC	0	FGASR	Н	Lens gets apart from disc.	3-level output.			
			FGASS	L	Lens gets closer to disc.				
			Other	HiZ	Other operation than focus gain adjustment				
45, 46	FEL2, 1	0			for focus gain adjustment.				
47	FEI	1		signal input term		Analog input.			
48	TESH	<u> </u>			tracking error signal sample & hold operation.	, were g w p en			
49	TEOF	0			or tracking servo operation ON / OFF.				
43	1201			king servo is OFF	-				
50	SBAD	1		tion signal input		Analog input.			
	RFRP	1 1			terrinia.	Analog Input.			
51				l input terminal.	N (, 2 2) ()				
52	VREF	+-!		age input termina	11 (+Z.ZV).	Applog ignut			
53	RFI	1	RF signal input			Analog input.			
54	GNDA	<u> </u>	Analog ground						
55	DTSC	0		EFM signal inverted output terminal for data slice control.					
<u>56</u>	EFMO	0	····	EFM signal monitoring output terminal.					
57	DTSC1	0	EFM signal out						
58	VDDA	-		Analog power supply terminal (+5V).					
59	PDCNT		<u>'</u>		for forcing PDO output to HiZ.				
60	PDO	0	EFM / PLCK pl	3-level output.					
			TMAX signal o	utput terminal. Hi	iZ when system-locked.				
			TMAX	cycle	TMAX output				
61	TMAX	0	Longer than s	specified cycle	L	3-level output.			
			Shorter than :	specified cycle	H (2VREF)				
			Equal to sp	ecified cycle	HìZ				
62	LPFN		LPF amp invert	ted input terminal	for PLL.				
63	LPFO	0	LPF amp outpu	it terminal for PL	L.				
64	VCOF	1	VCO filter term	ninal.					
65	VCOX	1	External VCO of	clock input termin	nal.				
66	PLCK	0	Playback data	ead clock output	terminal.				
67	MOD0								
68	MOD1		Internal operati	on mode setting	input terminals.				
69	MOD2			Ŭ					
70	WDCK	0	Word clock ou	tput terminal. No	rmally 88.2kHz.				
71	CHCK	0			Normally 44.1kHz.				
72	ВСК	0		t terminal. Norm					
73	AOUT	0	Audio data out						
74	CKSE	11	Internal clock s	·					
	DOUT	0	Digital output t						
76	TEST2	1	· · · · · · · · · · · · · · · · · · ·	ally "H" or Open.		With pull-up resistor.			
	HS HS	0	'		erminal. "L" for double-speed operation.	VVIIII pair up 100/3(0).			
	EMPH	0			· · · · · · · · · · · · · · · · · · ·				
		-		ally "H" or Open.	signal output terminal. "H" for emphasis ON.	Mith pull up conistor			
79	TEST3	+	<u> </u>			With pull-up resistor.			
80	MCK	0	iviaster clock c	output terminal.					

6. Mechanism μ -com : 75008GB-696-3B4 (IC6, X32-)

6-1. Pin connection



6-2. Pin function

Pin	Pin	Also	1/0	Port name	Description
No.	name	used as			
1	P72	KR6	0	PON	+5V POWER CONTROL. For TC9236F, etc. "L" for ON.
2	P71	KR5	0	XOFF	SERVO CLOCK OFF (16MHz). "H" for OFF.
3	P70	KR4	0	8-12	DISC SIZE SW. "H" for 8cm
4	P63	KR3	0	CCNT	TC9236F SUB-CODE UPDATE INHIBIT OUT. "H" for inhibit.
5	P62	KR2	0	RST	TC9236F RESET. "L" for reset.
6	P61	KR1	0	BUCK	TC9236FCOMMAND / DATA COMMUNICATION CLOCK.
7	P60	KR0	0	CCE	TC9236F CHIP ENABLE. "L" for Active.
8~11	P53~50		1/0	BUS3~0	TC9236F COMMAND / DATA COMMUNICATION BUS.
12	NC				
13	P43		1	LOCK	EFM LOCK SIGNAL FROM TC9236F. "H" for lock.
14	P42		1	НОТ	TEMPERATURE RISE DETECT. "H" for temperature rise.
15	P41		1		Not used. Connected to GND.
16	P40			SSTOP	SLED LIMIT SW. "L" for inner limit.
17	Vss			GND	Connected to GND.
18	XT1		1	XT1	SUB-CLOCK INPUT. Not used, connected to GND.
19	XT2		0	XT2	OPEN

CIRCUIT DESCRIPTION

Pin	Pin	Also	1/0	Port name	Description
No.	name	used as			
20	RESET		1	RESET	μ-COM RESET INPUT. "L" for reset.
21	X1		1	X1	MAIN CLOCK. Connect a 4.19MHz oscillator.
22	X2		0	X2	1
23	P33		0	SEARCH	Search status output. "L" during search.
24	P32		0		
25	P31		0	LOMO-	CD MECHANISM LOAD MOTOR
26	P30		0	LOMO+	CD MECHANISM LOAD MOTOR +.
27	P81		0	MUTE	MUTE OUT. "L"→ MUTE ON.
28	P80		0	SRQ	COMMUNICATION REQUEST TO SYSTEM CONTROLLER, "L"→ Requesting.
29	P03	SI /SB1	1	DI	SERIAL DATA INPUT FROM SYSTEM CONTROLLER.
30	P02.	SO / SB0	0	DO	SERIAL DATA OUTPUT TO SYSTEM CONTROLLER.
31	P01	SCK	1	CLK	SERIAL COMMUNICATION CLOCK FROM SYSTEM CONTROLLER.
32	P00	INT4	1		Not used. Connected to GND.
33	P13	TIO	1		Not used. Connected to GND.
34	NC				
35	P12	INT2	1		Not used. Connected to GND.
36	P11	INT1	1	MSOP	MECHANISM μ -COM STOP. "L" \rightarrow Stop and oscillation end.
37	P10	INTO	1	<u>CS</u>	COMMUNICATION REQUEST FROM SYSTEM CONTROLLER. "L" $ ightarrow$ requesting.
38	NC				
39	VDD			VDD	POWER +5V
40	P23		1	TEST3	TEST INPUT TERMINAL 3. "H" → Test mode.
41	P22		- 1	TEST2	TEST INPUT TERMINAL 2. "H" → Test mode.
42	P21		1	TEST1	TEST INPUT TERMINAL 1. "H"—→Test mode.
43	P20	PTO0	1	TEST0	TEST INPUT TERMINAL 0. "H"→ Test mode.
44	P73	KR7	0		OPEN

4-3. Mechanism microprocessor test mode

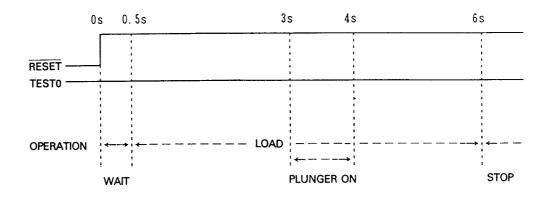
This test modes are provided to allow the mechanism microcomputer checking the servo system without the help of the system controller, for example when the mechanism deck is manufactured, etc. It also allows the mechanism microcomputer alone to load of eject a disc.

· Setting methods and operations

Regardless of the system controller, the test mode can be set by reading the test terminals at the time of resetting. The three kinds of modes as described below can be set according to the statuses of the four test terminals. In any test mode, it is required that the servo and mechanism power supplies have already been turned on before resetting.

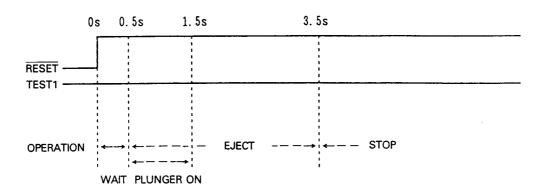
(1) Self loading

Loading starts when the TEST0 terminal is "H" at the time of resetting. However, as the mechanism microcomputer does not check the sensor, the loading always starts with the same timing as shown below. Therefore, if the chucking is correct or not can be checked visually or by monitoring DOWN SW.



(2) Self-ejection

Ejection starts when the TEST1 terminal is set to "H" at the time of resetting. Similarly to the case of self-loading, the timing is constant as shown below.

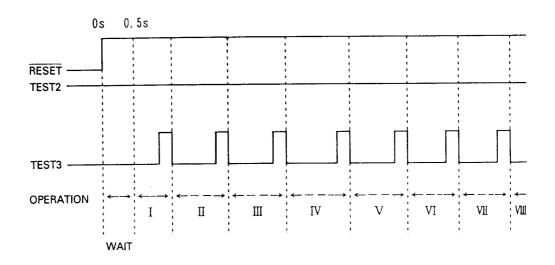


(3) Servo testing

The servo check mode can be entered when the TEST2 terminal is set to "H" at the time of resetting. Under this condition, applying a "H" pulse to the TEST3 terminal starts sequential operations of the mechanism and servo system, allowing checking of the operations. If both the TEST2 and TEST3 terminals are set to "H" at the time of resetting, the operations shown below occur automatically, and the last track will be played.

Due to the chattering cutting, only pulses in the range from 100ms to 1sec. are accepted as the input to the TEST3 terminal. The servo-related settings are constant with 12cm discs.

Note: The test mode can be canceled by resetting or entering the stop mode. Communications with the system controller is not performed in the test mode. In case the test terminals should go "H" together, the priority is set in the order of TEST0, TEST1 then TEST2.



- I. Stop. No operation until a pulse is input.
- II. Feed motor set to the origin point.
- III. Laser diode ON.
- IV. Focus servo ON.

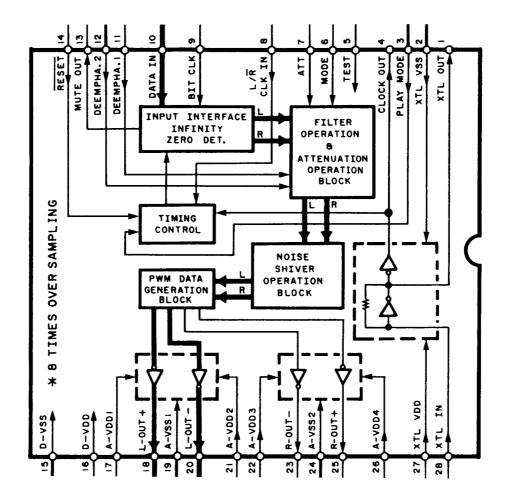
- V. Disc motor kick, CLV ON.
- VI. Tracking and feed servo ON.
- VII. First track play.
- VIII. Last track search and play.

Because of the chattering cutting, only pulses with durations of 100ms to 1sec. are accepted in TEST3. The servo-related setting are constant with 12cm disc.

Note: The test mode can be released by resetting the microcomputer or entering the stop mode. Communications with the system controller are not performed in the test modes. If more than one test terminal is "H" simultaneously, the test mode is selected in order of priority from TEST0 to TEST1 and TEST2.

7. D/A Converter : SM5871AS (IC7, X32-)

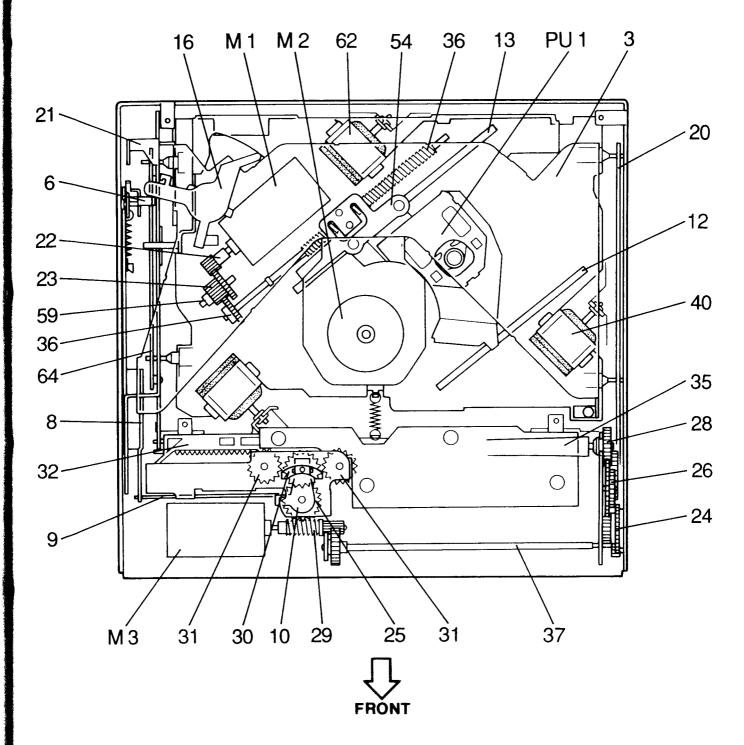
7-1. Block diagram



7-2. Pin function (ip: Input terminal with pull-up resistor.)

Pin No.	Symbol	1/0		Function						
1	хто	0	Oscillator output	terminal						
2	XVSS		X'tal VSS termin	al (0 V)			-			
3	DS	ip	Normal-/Double-	speed pla	y mode selec	ction (DS = L: Normal-speed (DS = H: Double-speed	`			
4	ско	0	Oscillator output	Oscillator output clock (DS = L: 384 fs which is same as XTI input frequency) (DS = L: 192 fs which is same as XTI input frequency)						
5	TSTN	ip	Test terminal: To	Test terminal: To be fixed to H in actual operation.						
6	MODN	ip	Mode control							
			terminal Selection MODN				T			
				ATTN		H	L			
7	ATTN	ip	Soft muting control		H	Soft muting cancel operation	Soft muting operation held (Fixed)			
			terminal	L	L	Soft muting operation	(I ixed)			
8	LRCI	ip	Input data sampl	Input data sampling rate (fs) clock H=L CH L=R CH						
9	BCKI	ip	Input data bit clock							
10	DIN	ip	Input data							
11	DFS1	ip	De-emphases							
			control terminal 1			DF	-S1			
					Selection	L	Н			
12	DFS2	ip	De-emphases	DFS	! Н	De-emphasis ON, 44.1 kHz	De-emphasis OFF			
12			control		L	De-emphasis ON, 48.0 kHz	De-emphasis ON, 32.0 kHz			
			terminal 2							
13	MUTEO	0	Infinity zero dete	ction out	out					
14	RSTN	ip	System reset: I							
			•	=Syster	•					
15	DVSS		Digital GND term	ninal (0 V)					
16	DVDD		Digital VDD term	inal (5 V	1					
17	AVDD1		Analog VDD term	ninal (5 \	')					
18	LO	0	Lch PWM output	t (+)						
19	AVSS1		Analog GND term	ninal 1 (0	(V)					
20	LON	0	Lch PWM output	t (–)						
21	AVDD2		Analog VDD term	ninal 2 (5	V)					
22	AVDD3		Analog VDD term	ninal 3 (5	V)					
23	RON	0	Rch PWM outpu	t (-)						
24	AVSS2		Analog GND terr	ninal 2 (0	(V)					
25	RO	0	Rch PWM outpu	t (+)	-					
26	AVDD4		Analog VDD term	ninal 4 (5	V)					
27	XVDD		X'tal VDD termin	nal (5 V)						
28	ХТІ	i	Oscillator input to		(384 fs: DS = (192 fs: DS =					

MECHANISM OPERATION DESCRIPTION

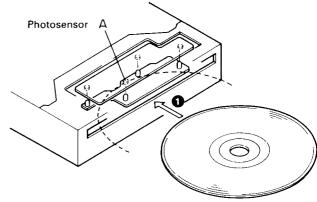


Note: Figures in the bracket () in the operation description or accompanied with the part name in the diagram show the reference numbers in the Exploded View.

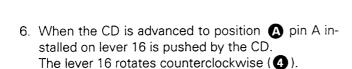
MECHANISM OPERATION DESCRIPTION

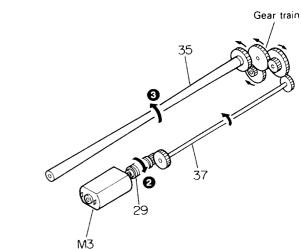
1. Loading

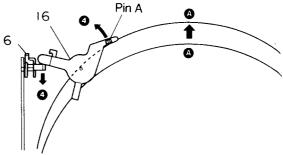
- 1. A CD is inserted (1).
- 2. Photosensor A detects the disc insertion.
- 3. The loading motor (M3) starts rotation according to the microcomputer instruction.



- 4. The rotation is transmitted through the worm gaer (29), drive shaft (37) and gear train, up to the loading roller (35). (2)
- 5. The CD is pulled by the friction of the rubber roller (3)

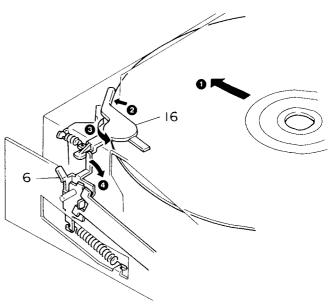






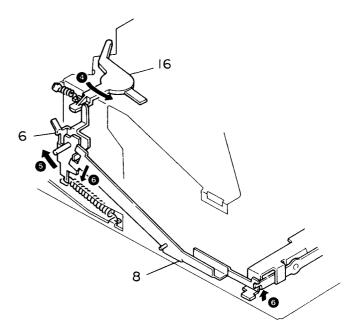
2. Chucking

- 1. When the CD contacts projection of the lever 16 (1)
- 2. The lever 16 rotates counterclockwise (2, 3).
- 3. The projection section on the other side of lever 16 is in contact with the lever 6 (4).



MECHANISM OPERATION DESCRIPTION

- 4. The "projection section" of the lever 16 is designed to come in contact with the projection section of lever 6, which is rotated clockwise when the lever 16 moves (3).
- 5. The claw installed on lever 6 is engaged with the "T-shaped hole" on lever 8, which is rotated counter-clockwise when lever 6 rotates clockwise ().



6. In Fig. 2-3, the worm wheel (25) held on the same shaft as the friction arm (10) is rotated clockwise by the rotation of the worm gear described above (3).

The spur gear integrated with the worm wheel (25) is meshed with the planetary gear (30), and rotates counterclockwise. A leaf spring, which is not shown in the figure, is inserted between the planetary gear (30) and the friction arm (10) in order to generate a friction force between them. This friction force ensures that the friction arm (10) rotates always clockwise (3).

- 7. The "notch section" on the tip of lever 8 is engaged with the tip of lever 9.
- 8. The "tip section" on the other end of lever 9 is contacted by the "projection section" of the friction arm (10) described before. This contact prevents the clockwise rotation of the friction arm.
- 9. As a result of the sequence of operations starting with the movement of lever 1 described before, the "notch section" of lever 8 rises, lever 9 rotates clockwise (6), and the contact of the projection section of the friction arm is separated. This frees the friction arm (10) and it starts clockwise rotation (3).

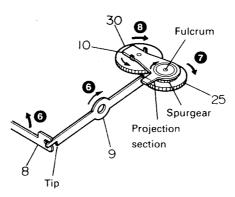
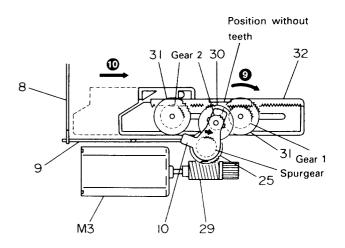


Fig 2-3.

MECHANISM OPERATION DESCRIPTION

10. When the friction arm (10) rotates clockwise, the planetary pinion of the planetary gear (30) is meshed with gear 1, which starts clockwise rotation (3). As gear 1' integrated with gear 1 is meshed with the rack gear (32), the rack gear starts to move toward the right (10).

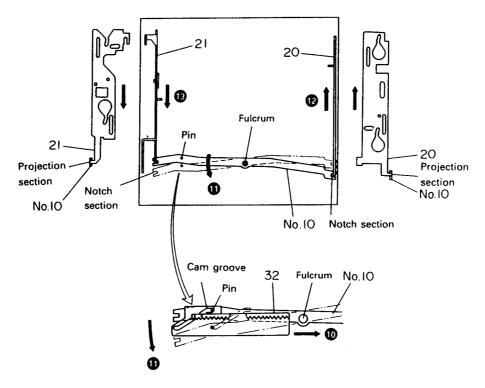
When the rack gear moves further toward the right, gear 1' and the rack gear are disengaged at the position without teeth, and the rack gear stops to move.



- 11. The cam groove provided on the rack gear (32) activates the pin of lever 10 supported by a shaft on the chassis, and lever 10 rotates counterclockwise (1).
- 12. Into the notch sections on both ends of lever 10, the projection sections of cam 20 and cam 21 are engaged.

Cams 20 and 21 are held by the chassis so that they can slide freely. When lever 10 rotates counterclockwise, cam 20 moves upward (2) in the figure and cam 21 moves downward in the figure (3).

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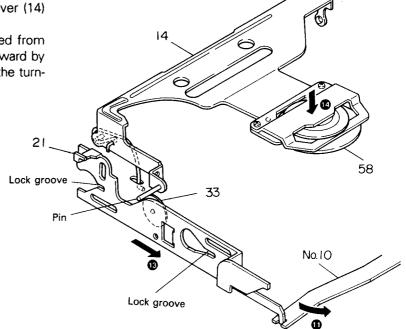


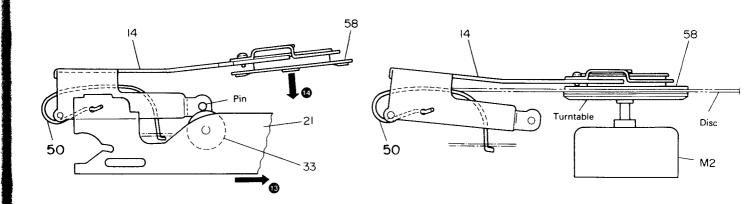
MECHANISM OPERATION DESCRIPTION

13. A roller (33) is supported by a shaft above cam 21. The roller supports the pin on the clamp lever (14) so the clamper (58) is in the up position.

When cam 21 moves, the roller is separated from

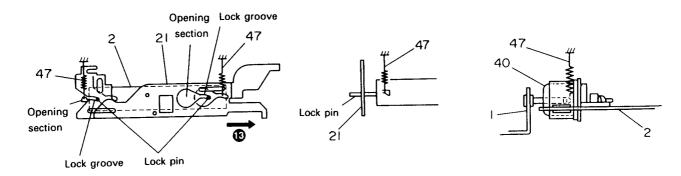
When cam 21 moves, the roller is separated from the pin, and the clamp lever is moved downward by the force of the spring (50) to fix the CD on the turntable (12).



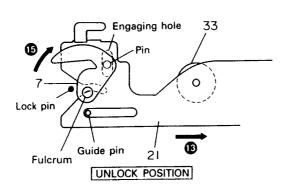


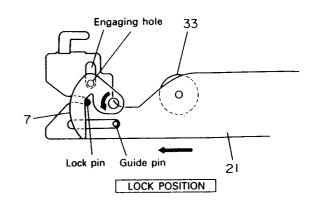
MECHANISM OPERATION DESCRIPTION

- 14. Cam 21 has a lock groove, in which the lock pin of the pickup chassis (2) is engaged. The pickup chassis is fixed. When cam 21 moves, the lock pin is relatively moved to the opening section. This frees the pickup chassis, which is held in the floating status by the suspension spring (47) and damper (40).
- 15. Cam 20 also has a lock groove and opening similarly to cam 21. It is subject to the lock and unlock operations between the lock pin on the pickup chassis.



- 16. The lock lever (7) is supported by a shaft on the chassis, and the pin (actually a projection with burrs) on the lock lever is engaged into the engaging hole on cam 21. The cam is held by the guide pin so that it can move freely toward the front or rear of the chassis.
- 17. Before loading of the CD, cam 21 is the lock position shown in the figure. In this position, the lock section of the lock lever (7) prevents, or locks, the horizontal movement of the lock pin of the pickup chassis (2).
- When a CD is loaded as described before, cam 21 moves toward the right in the figure and the lock lever (7) starts clockwise rotation (13) This causes the lock section to move upward and the lock pin of the pickup chassis is freed. The horizontal movement of the pickup chassis is locked or unlocked based on the above.
- 18. Although not shown in the figure, a similar lock lever is also used with cam 20 to lock or unlock the front right side of the pickup chassis.





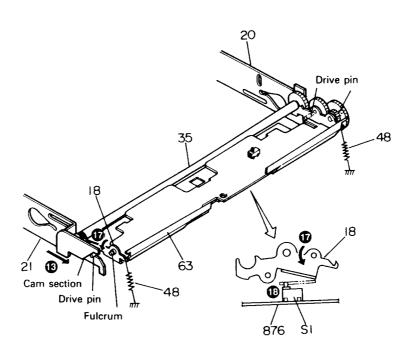
When a CD is loaded as described before, cam 21 moves toward the right in the figure, its cam section pushes the drive pin, and the roller lever (18) starts counterclockwise rotation. (The same operation occurs also with cam 20.) (17)

As a result, the loading roller (35) goes downward, the contact between the CD and the roller is separated, and the CD transport is stopped.

20. A switch (S1) is installed below the roller lever (18), and turned ON when the roller lever goes down ward (18).

The microcomputer identifies the completion of chucking when this switch is turned ON. However, the motor rotation is continued for more about 0.5 second to allow a margin until the actions in other mechanisms terminate completely. After this, the motor (M3) rotation|stops based on the judgment of the completion of chucking.

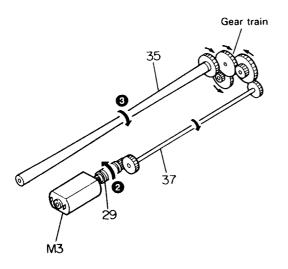
21. After the completion of chucking, the playback starts according to the microcomputer instruction.



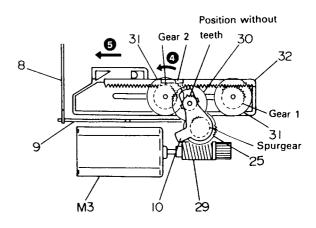
3. Ejection

S if

1. When the eject button is pressed, the loading motor (M3) starts inverse rotation (2).

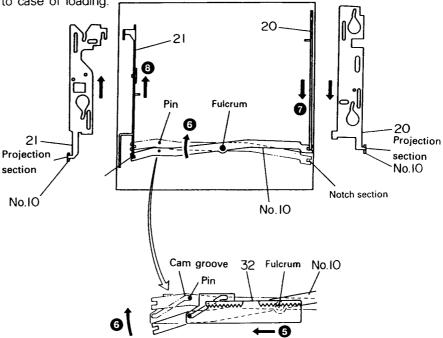


2. The friction arm (10) rotates counterclokwise, and the rack gear (32) moves toward the left (4) (5).

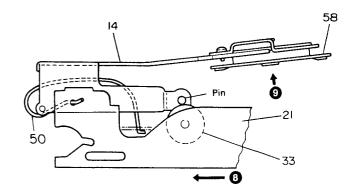


MECHANISM OPERATION DESCRIPTION

3. Cam 20 and 21 lock the pickup chassis by acting in the opposite ways to case of loading.



- 4. The lift roller (33) pushes the clamp lever (14) upward, thereby moving the clamper (58) upward (3).
- 5. The loading roller (35) moves upward and the door moves downward. The disc is ejected by pressure.



4. Playback

- When the disc is chucked and the DOWN switch (S1) is turned ON, the microcomputer checks the limit switch (*1). If it is OFF, the sled motor (*2) is rotated to feed the pickup toward the inner periphery and turn the switch ON.
- 2. When the limit switch is turned ON, the pickup is activated, the focusing servo then the tracking servo are applied, the spindle motor (M2) is rotated, and playback is started.
- 3. When the stop button is pressed, all servoes are

- turned OFF while the pickup position is not changed.
- 4. When the eject button is pressed, the ejection operation is performed a described before. At the same time, the pickup is fed toward the inner periphery and stopped when the limit switch is turned ON.
 - *1 Switch which is turned ON when the pickup is on the inner periphery position.
 - *2 Motor which moves the pickup toward the inner

MECHANISM OPERATION DESCRIPTION

5. Mechanism operation timing

5-1. Control terminals

Out put terminal

- ① Motor (+) terminal
- 2) Motor (-) terminal

Input terminals

- ① Photosensor (A) terminal
- Photosensor (B, D) terminal
- 3 Photosensor (C) terminal
- *1
- (5) DOWN switch

- *2
- *1 Chattering shall be 20 ms.
- *2 Chattering shall be 30 ms.

5-2 Loading operations

Loading start conditions

er.

- Loading start from the status without disc: Loading starts when one of photosensors A, (B, D) and C is turned ON.
- Loading start from the status after completion of ejection of 12cm disc [when only photosensors A and (B, D) are ON]: Loading starts when photosensor C is turned ON.

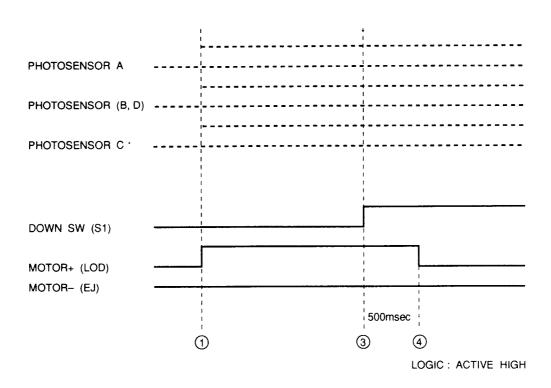
 Loading starts from the status after completion of ejection of 8cm disc [when only photosensor A is ON]: Loading starts when photosensor (B, D) is turned ON.

Loading control methods

- ① When one of the loading start conditions is met, the motor is driven toward the loading direction.
- (3) When the DOWN switch is turned ON, the motor is driven for 500ms, after which it is stopped,
- 4 Photosensors A and (B, D) check whether the disc is 8cm or 12cm.

Loading protection operation

- In case loading does not complete in 8 seconds after the start, the operation transits to ejection. If the ejection does not complete in 8 seconds again, the operation is stopped immediately.
- If all photosensors are OFF for 1 seconds in the period between the start and completion of loading, the loading is stopped based on the judgment that the disc has been removed.

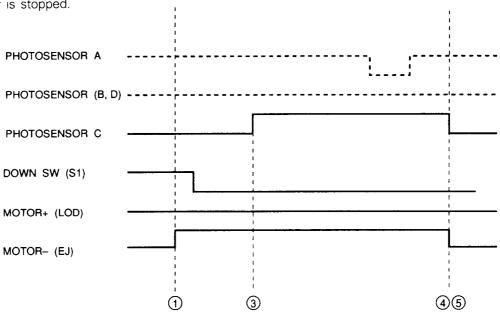


MECHANISM OPERATION DESCRIPTION

5-3. Ejection operation

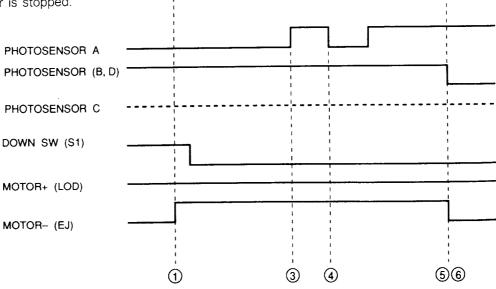
Ejection control methods

- [1] Ejection control from the status in which 12cm disc is chucked
- 1) The motor is driven in the ejection direction.
- 3 Photosensor C is turned ON.
- 4 Photosensor C is turned OFF.
- ⑤ The motor is stopped.



LOGIC : ACTIVE HIGH

- [2] Ejection control from the status in which 8cm disc is chucked
- 1) The motor is driven in the ejection direction.
- 3 Photosensor A is turned ON.
- (4) Photosensor A is turned OFF.
- ⑤ Photosensor A is kept ON and photosensor (B, D) is turned OFF.
- ⑥ The motor is stopped.



LOGIC : ACTIVE HIGH

MECHANISM OPERATION DESCRIPTION

- [3] Ejection control from the status in disc is located in the middle
- In case the presence of disc can be identified with a photosensor: The loading completion status is set temporarily to identify the disc size, then ejection is restarted.
- In case the photosensors, END switch and DOWN switch are all OFF:
- (1) The motor is driven in the ejection direction for 500ms.
- (2) When a photosensor reacts, the loading completion status is set temporarily to identify the disc size, then ejection is restarted.

Ejection protect operation

- In case ejection does not complete in 8 seconds after the start, the operation transits to loading. If loading does not complete in 8 seconds again, the operation is stopped immediately.
- If all photosensors are OFF for 1seconds in the period between the start and completion of ejection, the ejection is stopped based on the judgment that the disc has been removed.
- If the DOWN switch is ON while all photosensors are OFF, ejection is performed. (Because loading is possible even when disc is absent, for example in test mode.)

5-4. Momentary OFF during loading or ejection.

- Momentary OFF during loading: Loading is stopped temporarily. When the momentary OFF is released, loading is restarted from the same position.
- Momentary OFF during ejection: Ejection is stopped temporarily. When the momentary OFF is released, the loading completion status is set, the disc size is identified, and ejection is started again.

5-5. Acc ON/OFF during loading of ejection.

- Acc ON/OFF during loading: Loading is countinued until completion. However, the protect timer is activated, and loading is stopped if the timer overflows.
- Acc ON/OFF during ejection: Ejection is coutinued until completion. However, the protect timer is activated, and ejection is stopped if the timer overflows.

SUPPLEMENT RELATED TO LOADING/EJECTION OF DXM-206 (CD-MECHANISM)

8/12cm disc size identification method
 The disc size is identified using photosensors A and
 (B, D) in the chucking completion status.

A OFF, B/D OFF = 12cmA OFF, B/D ON = 8cm

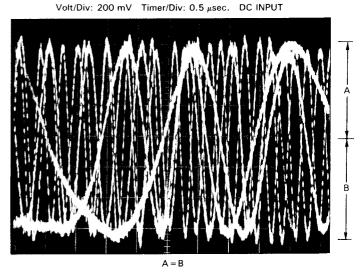
A OFF, B/D ON = 12cm (abnormal) A ON, B/D ON = 8cm (abnormal)

2. Ejection in chucking status without disc. If ejection is started while the DOWN switch is ON, the motor keeps on running for more 700 milliseconds even if all photosensors are OFF, then the one-second timer for checking if all photosensors are OFF is started. Therefore, if ejection is started without disc, the motor should rotate for two seconds, making it possible to set the mechanism to the complete ejection status.

ADJUSTMENT (MECHANISM)

1. Tracking offset adjustment

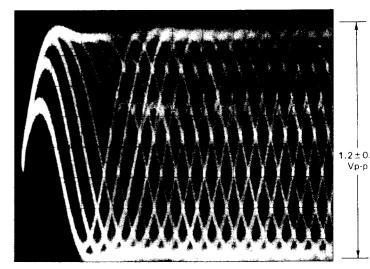
- 1. Connect a test jumper wire between the test point (TEST2) and (+5 V).
- Connect a test jumper wire between the test point (TOFF) and (Vref).
- 3. Connect an oscilloscope between the test point (TE) and (Vref).
- 4. Put the set into play mode by loading the disc.
- 5. Adjust VR2 so that the oscilloscope reading is symmetrical in relation to 0 V.
- 6. After adjusting, reset 1 and 2 as original.



2. Focus offset adjustment

- 1. Connect an oscilloscope to the test point (RF).
- 2. Put the set into play mode by loading the disc.
- 3. Adjust VR1 so that the oscilloscope waveform eye pattern is good.

A good eye pattern means that the diamond shape (\Diamond) in the center of the oscilloscope can be clearly distinguished.

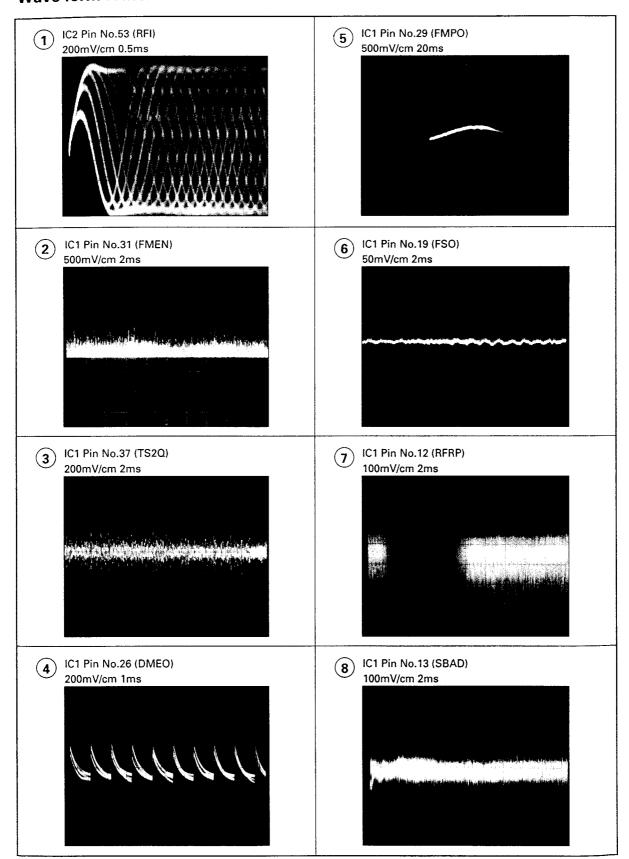


Volt/Div: 200 mV Timer/Div: 0.5 μsec.

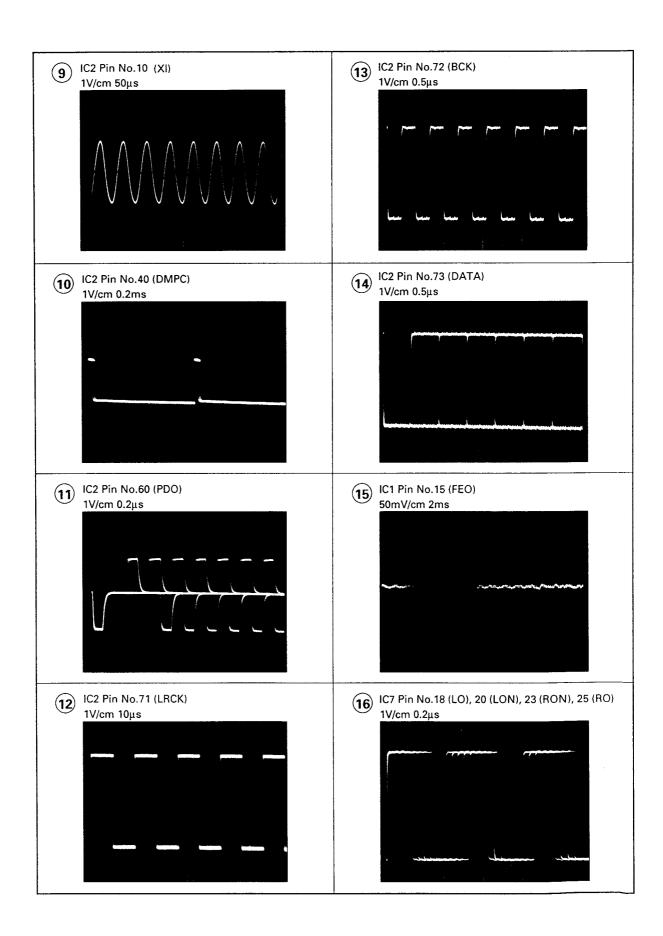
ADJUSTMENT (MECHANISM)

Wave form : Photo No. \rightarrow Refer to SCHEMATIC DIAGRAM

± 0.3



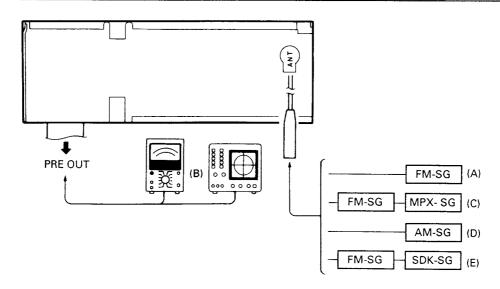
ADJUSTMENT (MECHANISM)



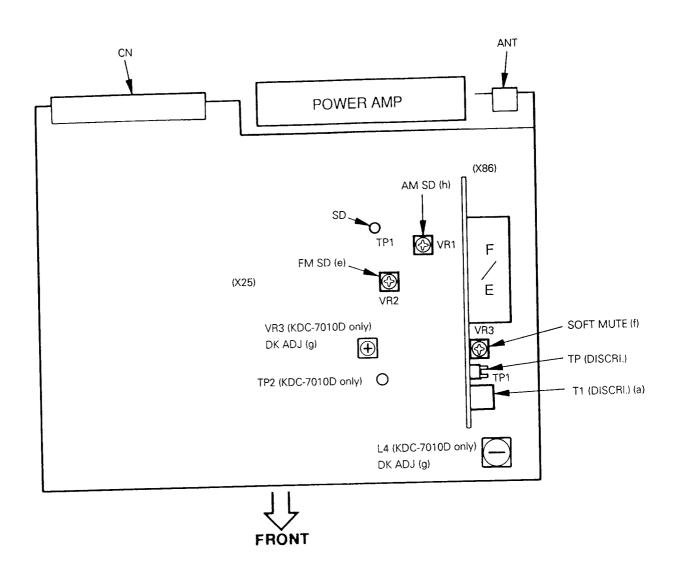
್ - ಇ - ಅಂತರ್ ಅಂತರ್ವಿಗಳಿಗೆ ಅವರಿಗಳಿಗೆ ಅವರಿಗಳು ಮಾಡಿದ್ದಾರೆ. ಅವರಿಗಳಿಗೆ ಆಗ್ರಹಿಸಿಗಳಿಗೆ ಆಗ್ರಹಿಸಿಗೆ ಆಗ್ರಹಿಸಿಗಳಿಗೆ ಆಗ್ರಹಿಸಿಗೆ ಆಗ್ರಹಿಸಿಗಳಿಗೆ ಆಗ್ರಹಿಸಿಗಳಿಗೆ ಆಗ್ರಹಿಸಿಗಳಿಗೆ ಆಗ್ರಹಿಸಿಗಳಿಗೆ ಆಗ್ರಹಿ

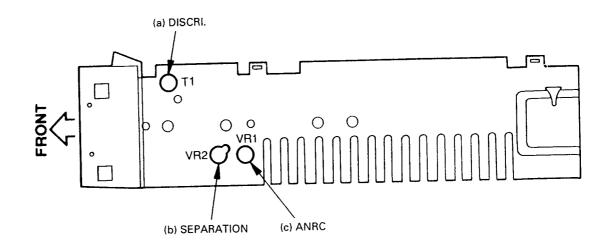
ADJUSTMENT

		INPUT	OUTPUT	RECEIVER	ALIGNMENT		· ·
No.	ITEM	SETTINGS	SETTINGS	SETTINGS	POINTS	ALIGN FOR	FIG.
FM S	SECTION						
		(A)	Connect a DC				
1	DISCRIMINATOR	98.1MHz Odev	voltmeter	FM 98.1MHz	T1 (X86-)	OV	(a)
		60dBµ(ANT input)	to TP1 (X86-).				
		(C)					
		98.1MHz					
		1kHz ±40kHz dev				Adjust it so that the crosstalk	
2	SEPARATION	Pilot ±6kHz dev	(B)	FM 98.1MHz	VR2 (X86-)	from L to R and R to L	(b)
		Selector : L or R				become minimum.	
		60dBµ(ANT input)					
		(C)					
		98.1MHz					
		1kHz ±40kHz dev					
3	ANRC	Pilot ±6kHz dev	(B)	FM 98.1MHz	VR1 (X86-)	Separation 10dB	(c)
		Selector : L or R					
		35dBµ(ANT input)					
		(A)					
		98.1MHz					
4	SEEK STOP LEVEL	1kHz ±40kHz dev	-	FM SEEK : ON	VR2 (X25-)	STOP	(e)
		20dBµ(ANT input)		98.1MHz			
		(A)					
		98.1MHz				Output noise level -25dB	
5	SOFT MUTE LEVEL	1kHz ±40kHz dev	(B)	FM 98.1MHz	VR3 (X86-)	(When not add any signal	(f)
		60dBµ→No input				to ANT terminal.)	
SDK	SECTION					.,	
		(E)					
		98.1MHz Omod	Connect an AC				
<1>	DK LEVEL	SK 5.33%	voltmeter to	FM 98.1MHz	L4, VR3	Maximum	(g)
		DK 30%, BK 60%	TP2 (X25-).	SDK : ON	(X25-)		
		60dBµ(ANT input)					
AMS	SECTION				***		
		(D)					
(1)	OTOD LEVEL	999kHz					
(1)	STOP LEVEL	400Hz, 30% mod	_	AM 999kHz	VR1 (X25-)	STOP	(h)
		35dBµ (ANT input)					



ADJUSTMENT

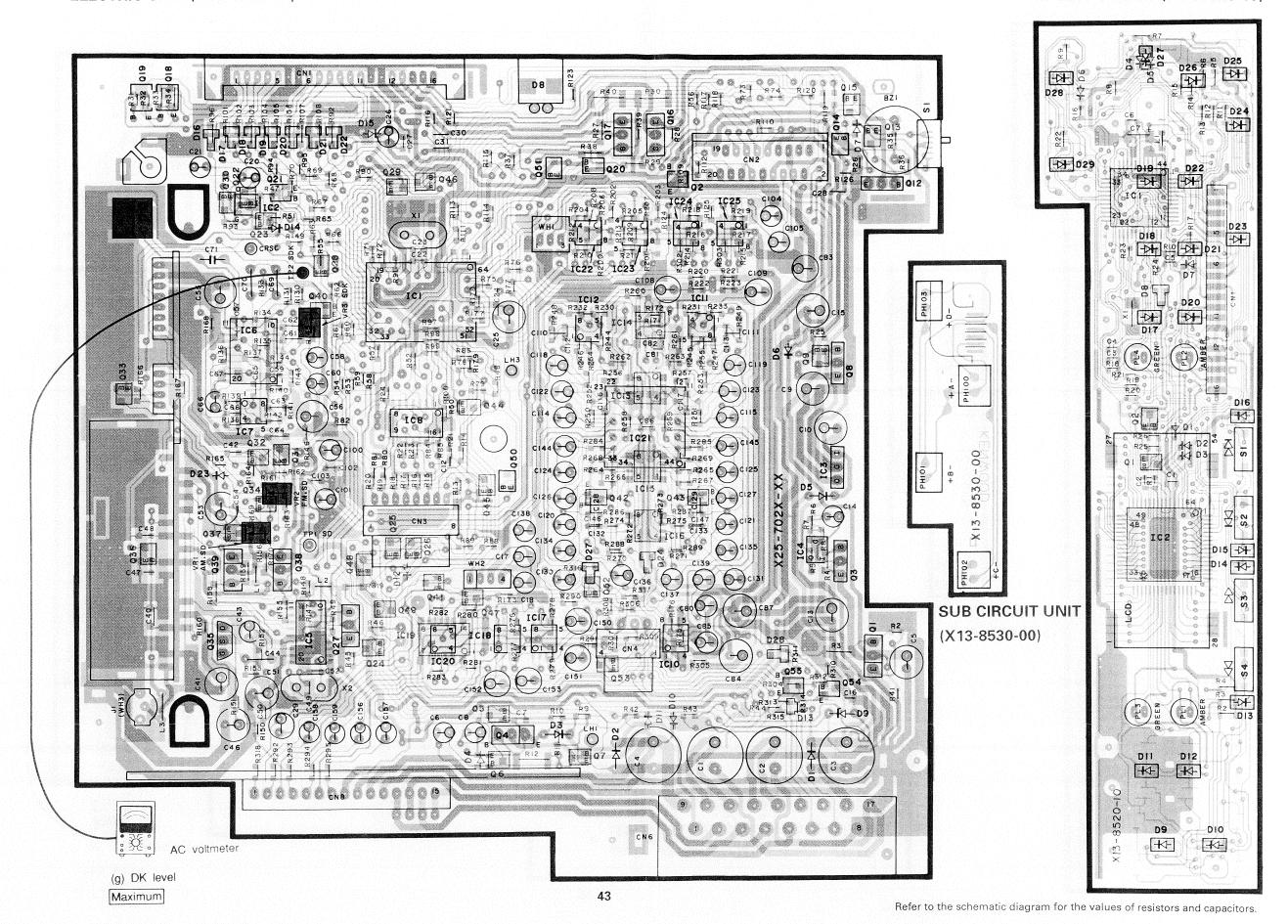




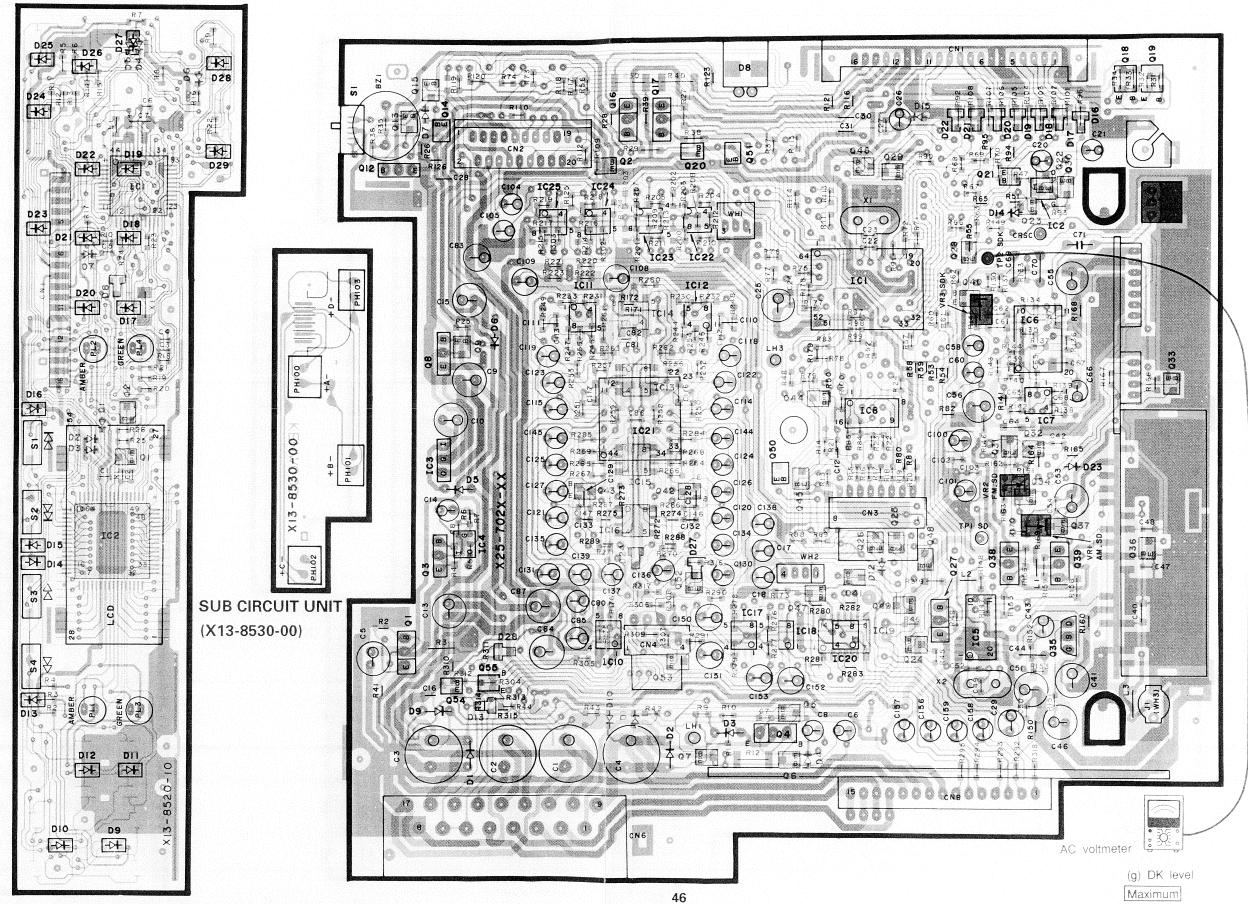
PC BOARD (COMPONENT SIDE VIEW)

ELECTRIC UNIT (X25-7022-XX)

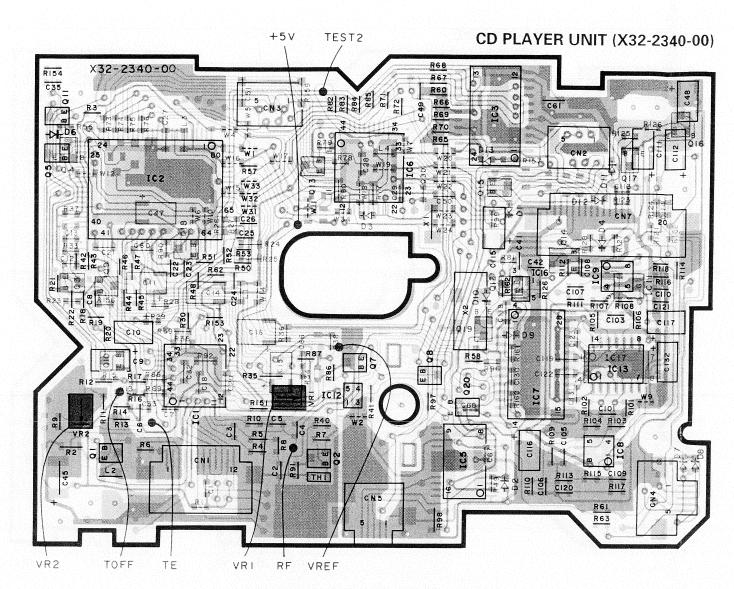
SWITCH UNIT (X13-8520-10)



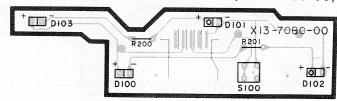
SWITCH UNIT (X13-8520-10)



PC BOARD (COMPONENT SIDE VIEW)

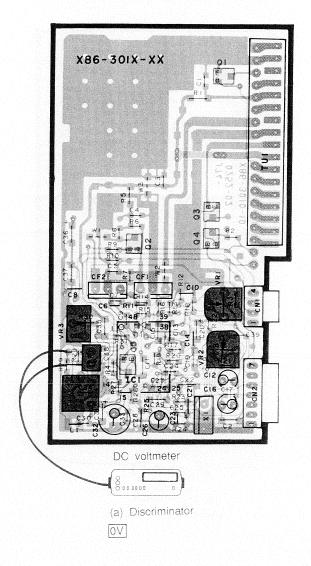


SUB CIRCUIT UNIT (X13-7080-00)

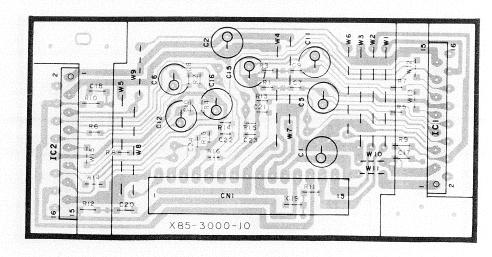


Refer to the schematic diagram for the values of resistors and capacitors.

TUNER UNIT (X86-3012-XX)

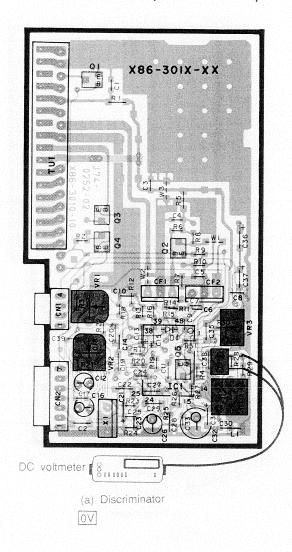


POWER AMPLIFIER UNIT (X85-3000-10)

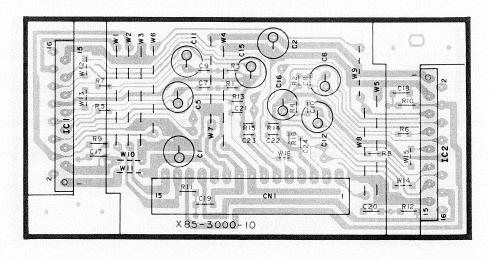


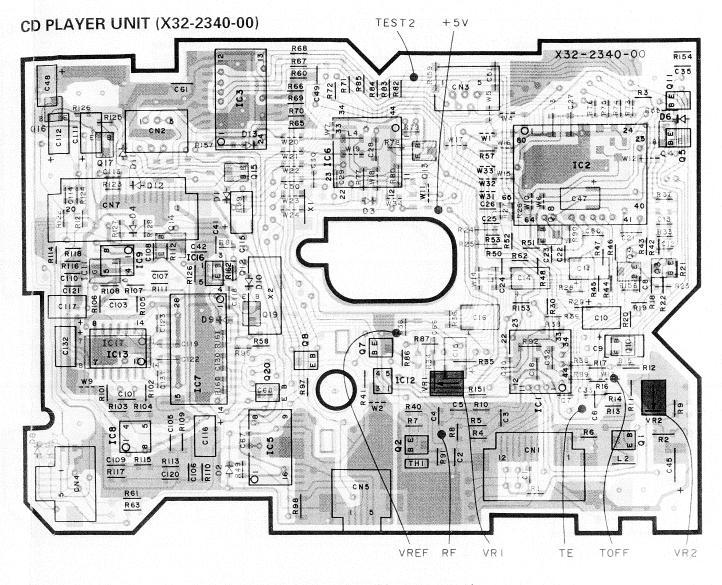
PC BOARD (FOIL SIDE VIEW)

TUNER UNIT (X86-3012-XX)

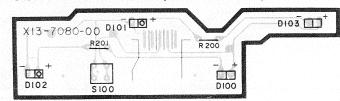


POWER AMPLIFIER UNIT (X85-3000-10)

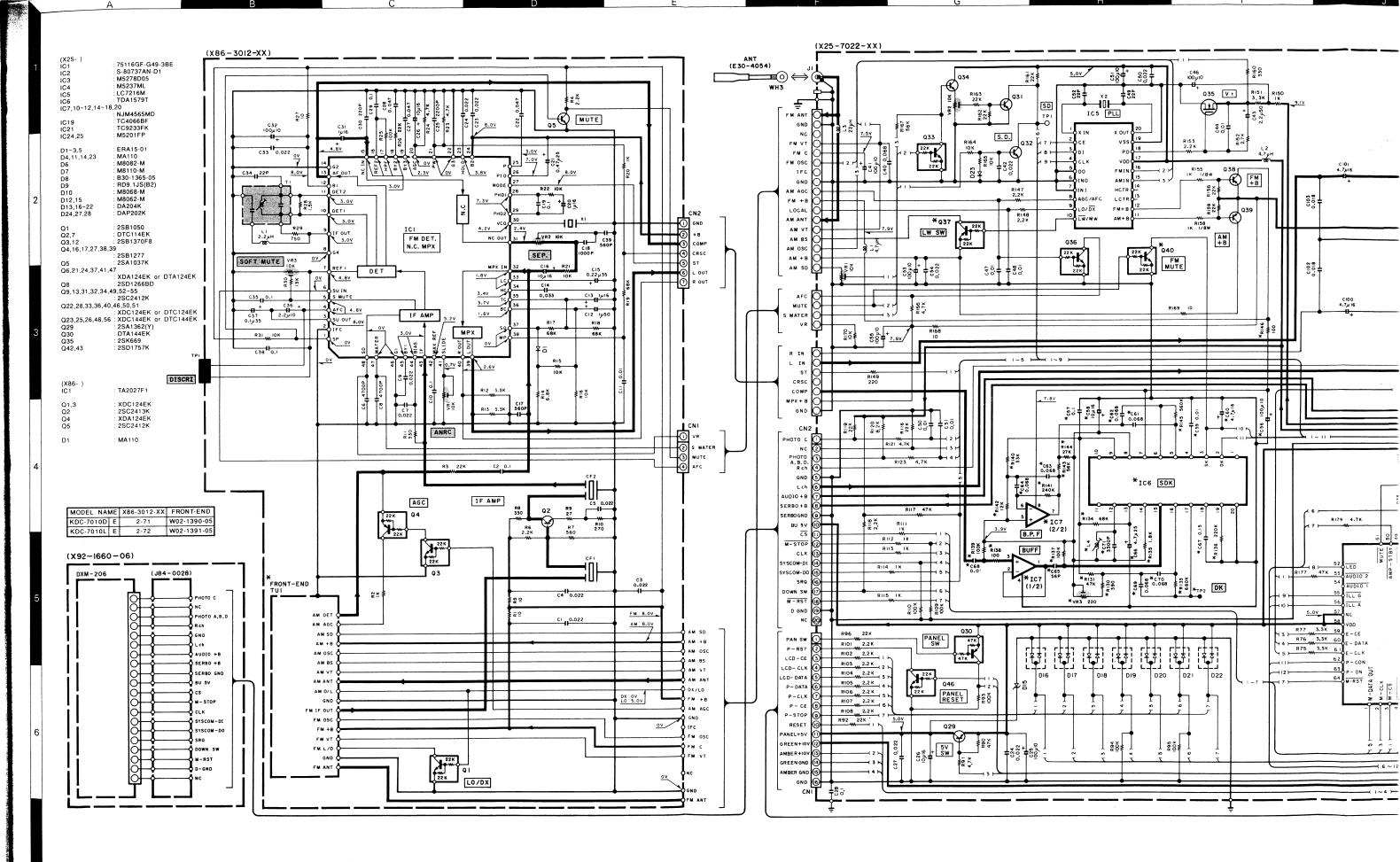




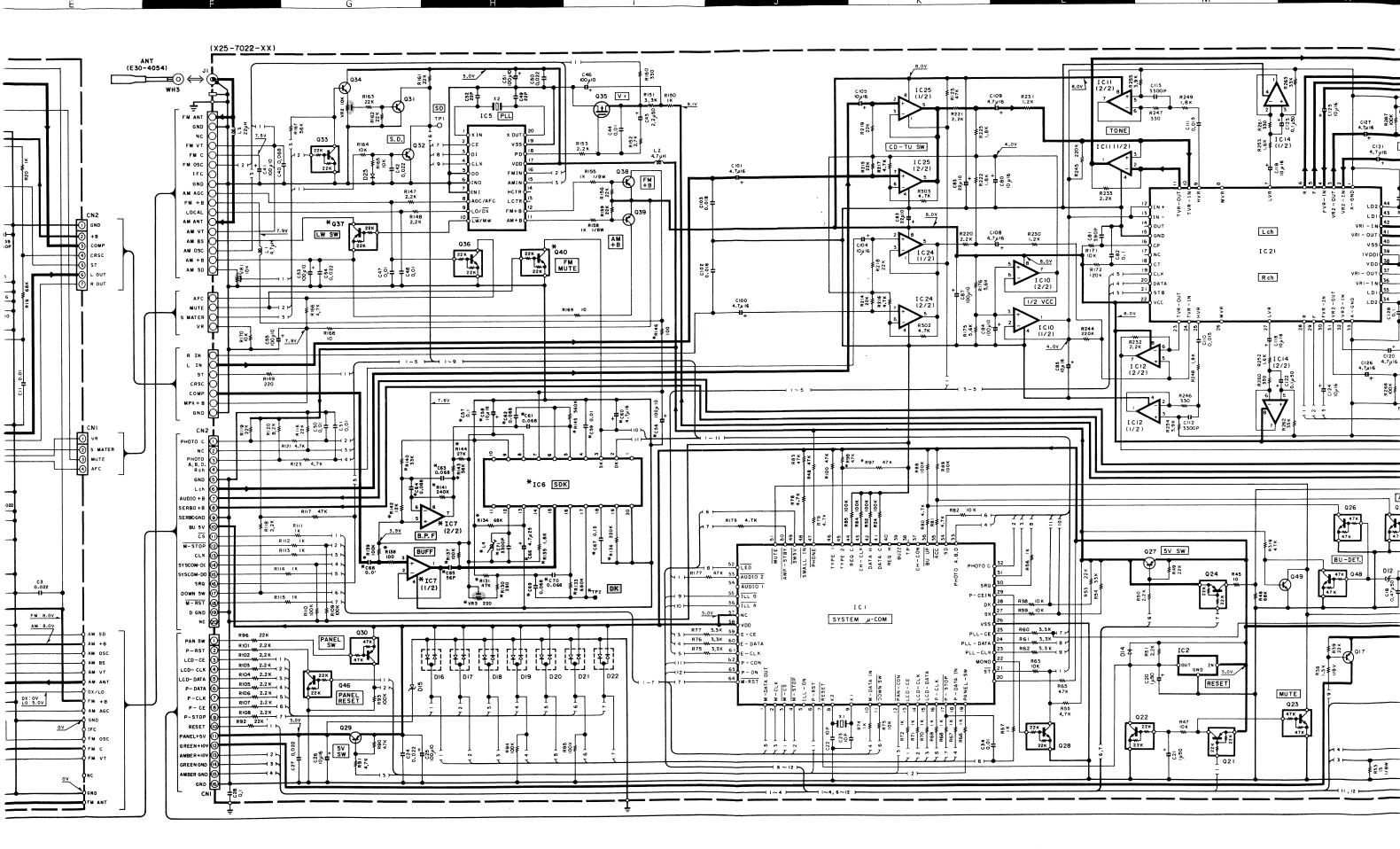
SUB CIRCUIT UNIT (X13-7080-00)

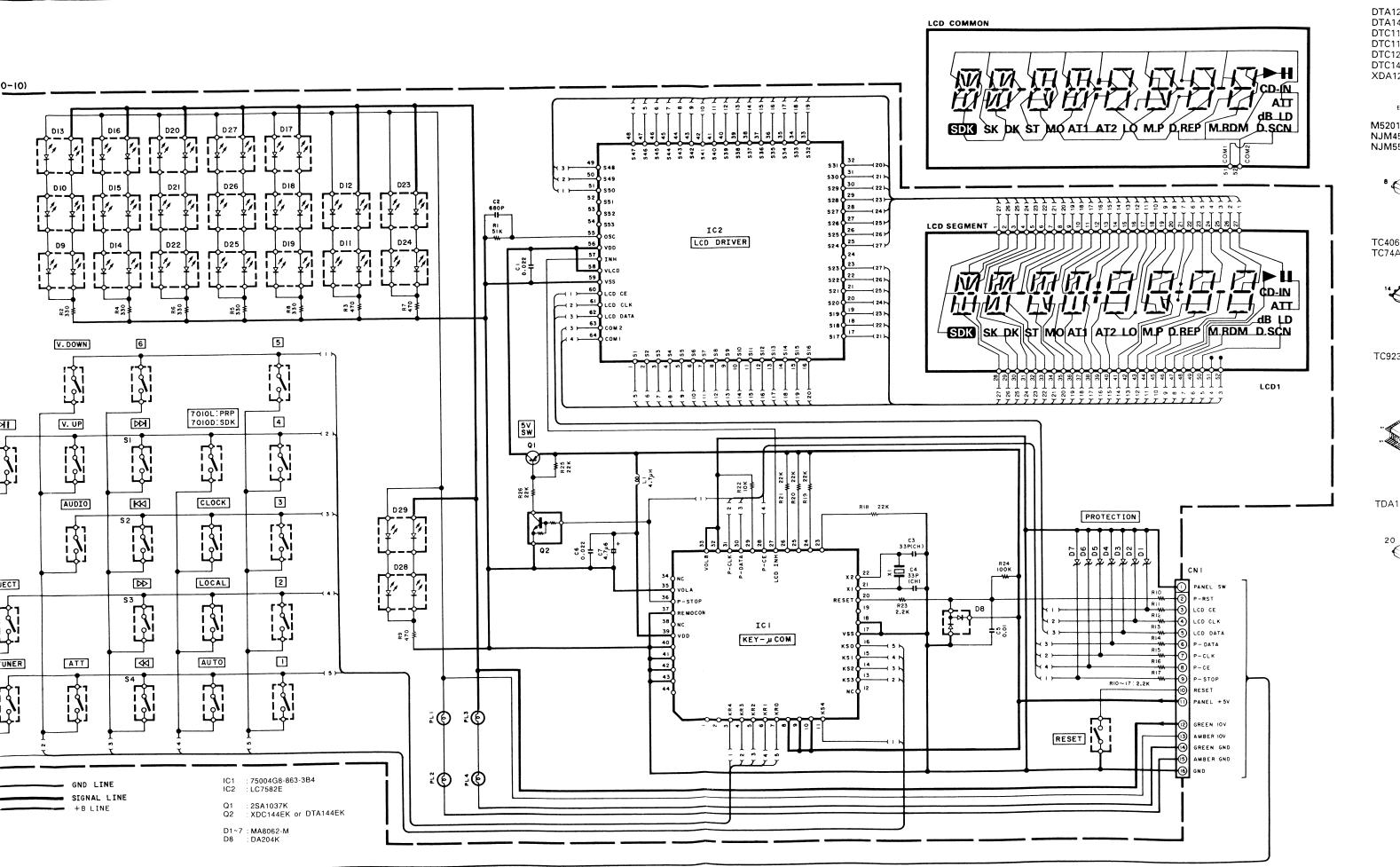


Refer to the schematic diagram for the values of resistors and capacitors.

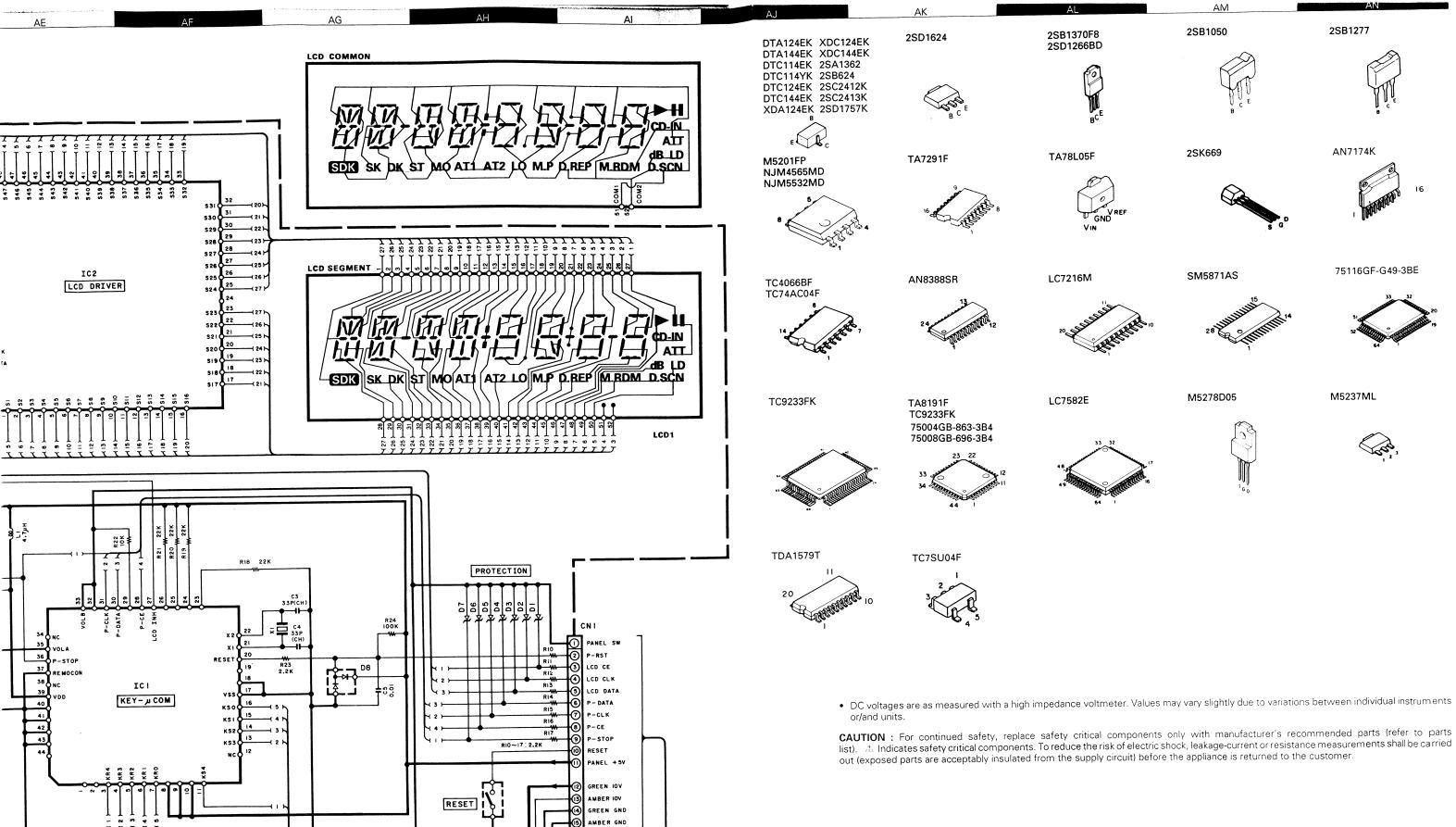


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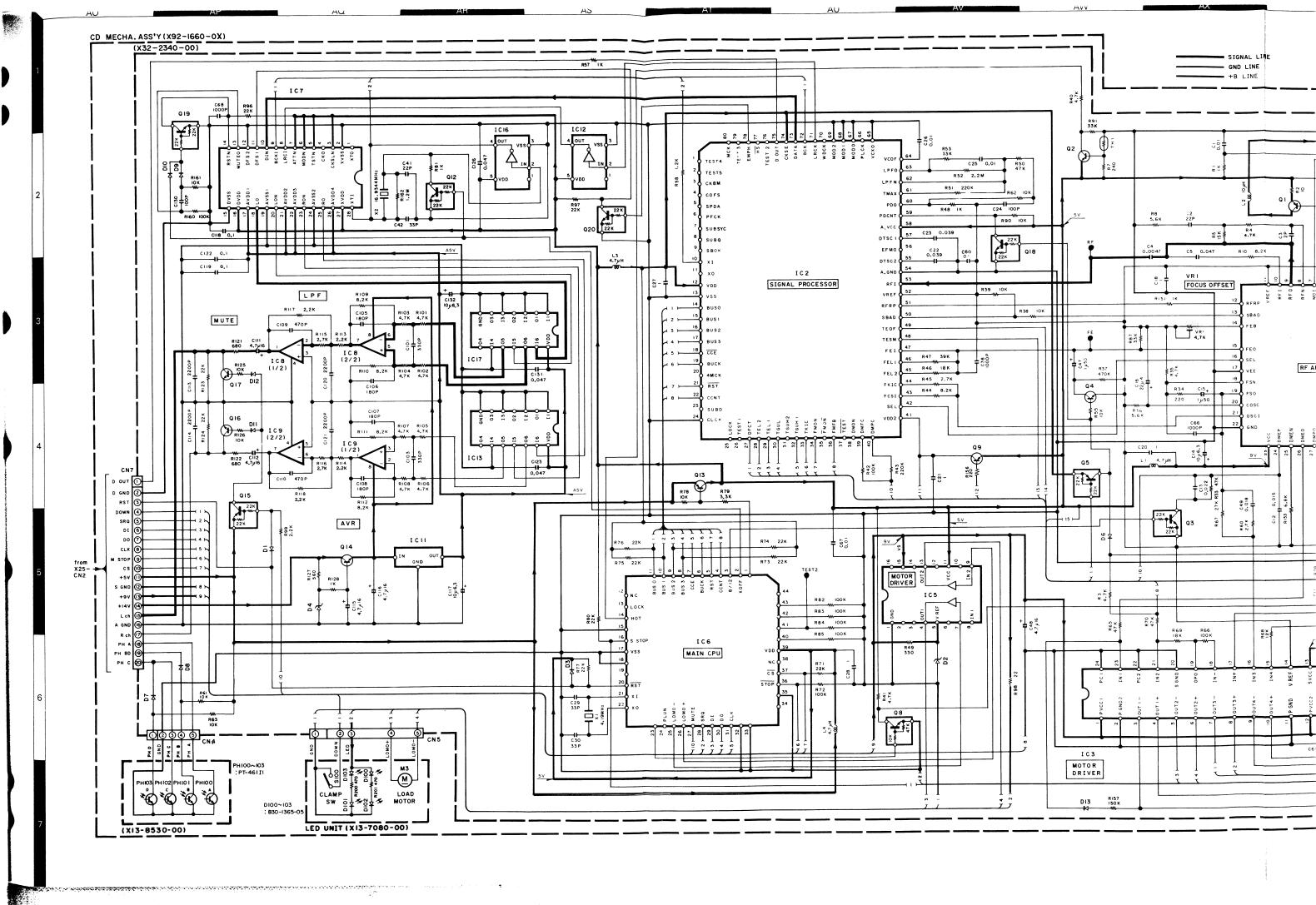


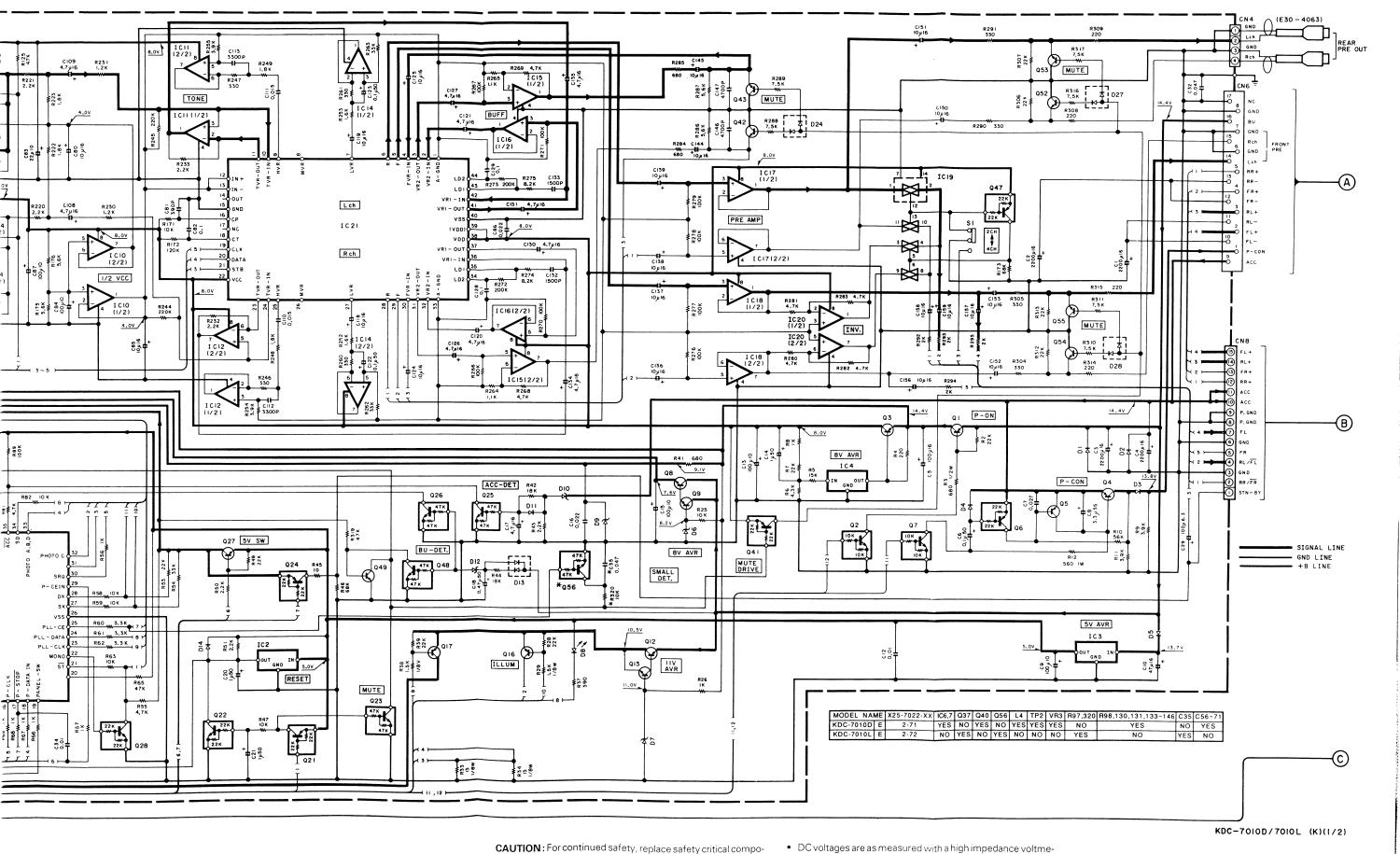
KDC-7010D/7010L (K)(2/2)



KDC-7010D/7010L (K)(2/2)







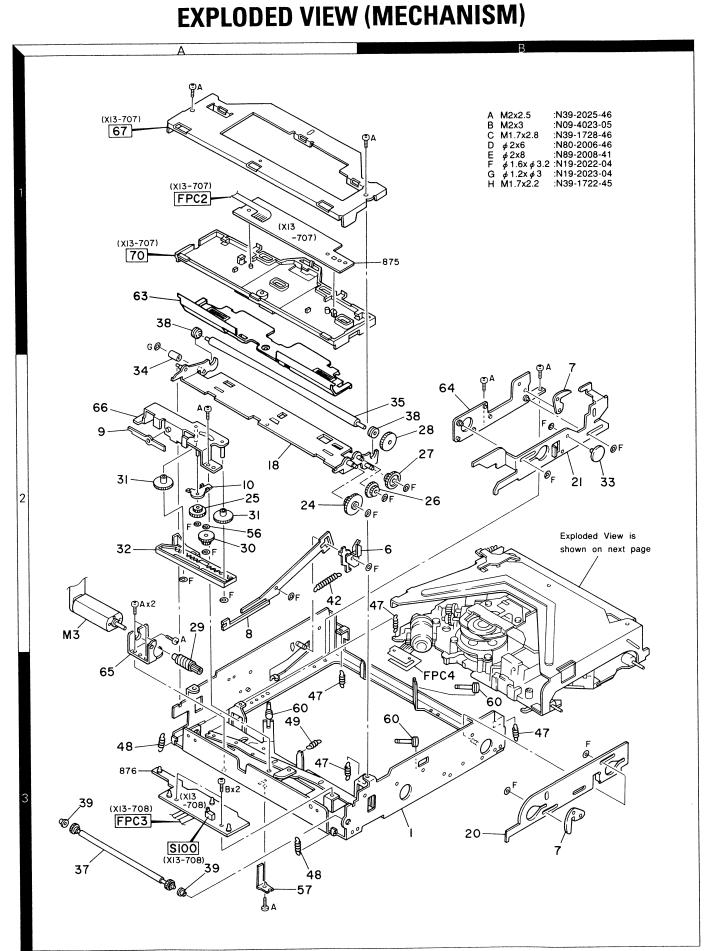
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). A Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

 DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

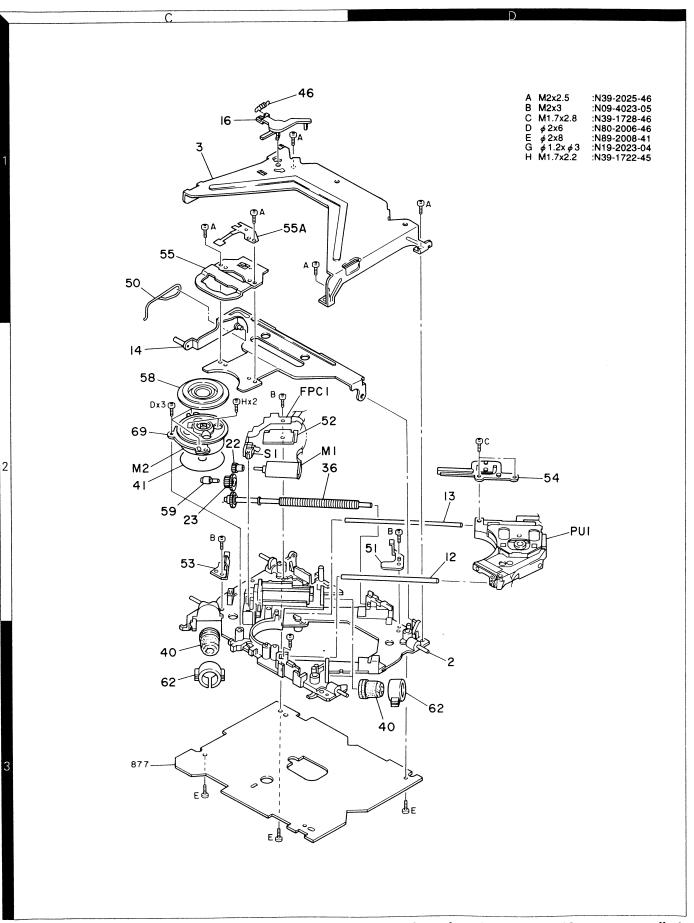
KDC-7010D/L KENWOOD

Y22-3232-71

EXPLODED VIEW (MECHANISM)



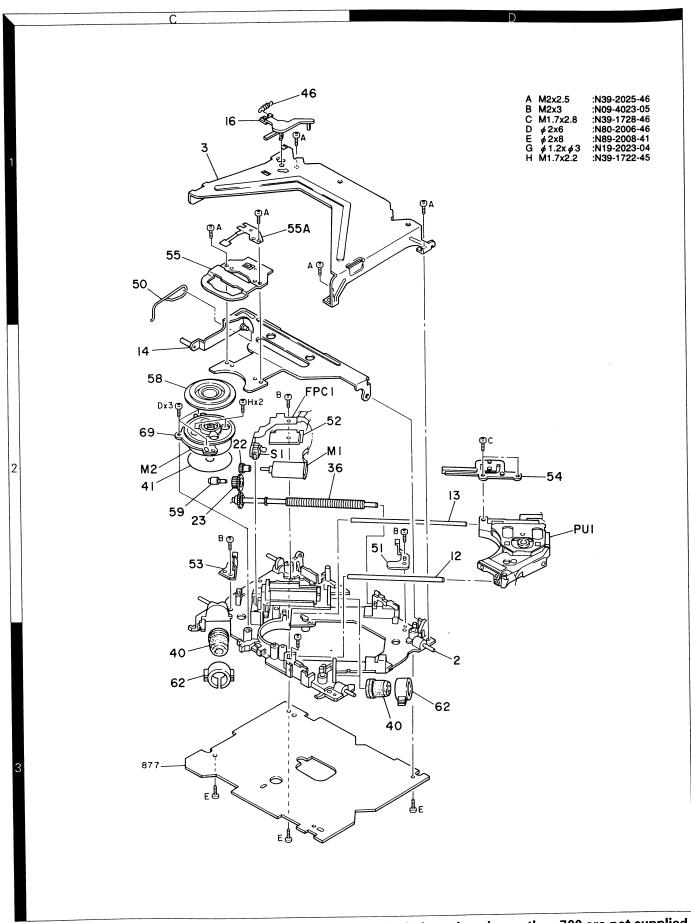
Parts with the exploded numbers larger than 700 are not supplied.

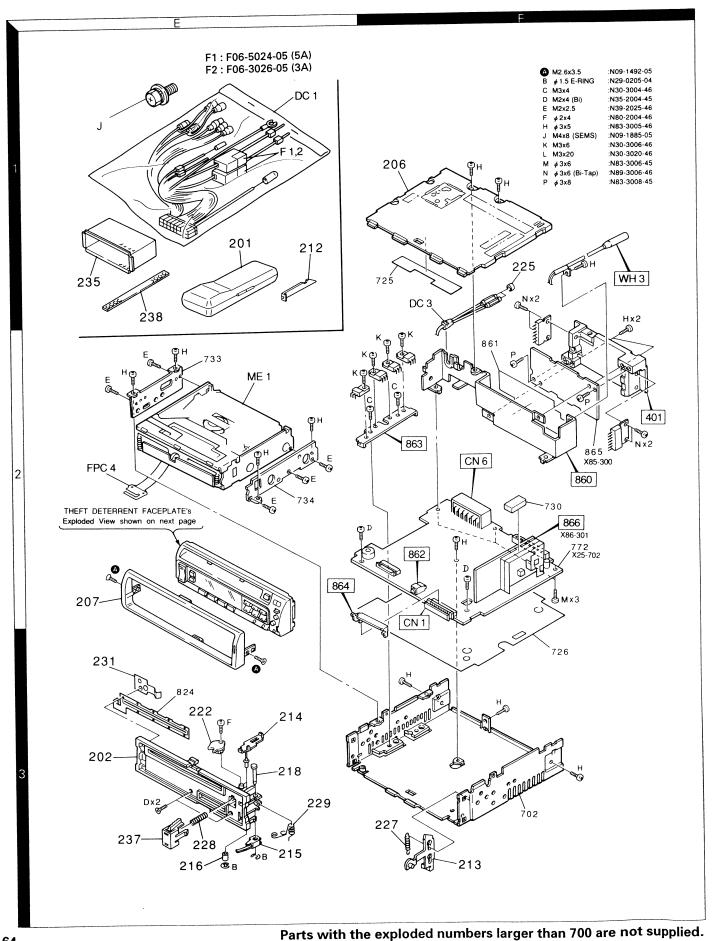


KDC-7010D/L KDC-7010D/L

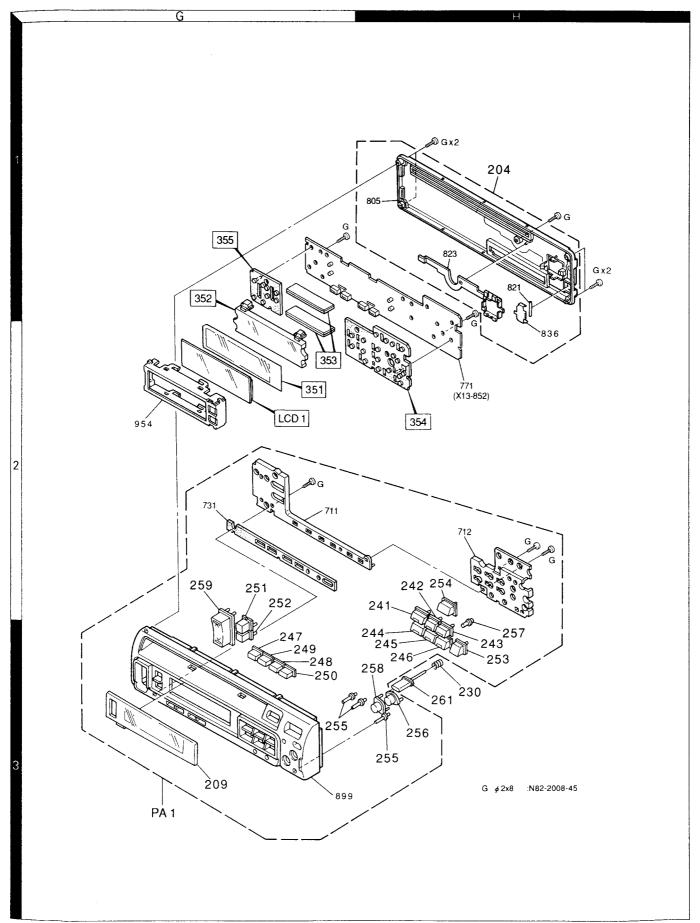
EXPLODED VIEW (MECHANISM)

EXPLODED VIEW (UNIT)





EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnes dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address		Parts No.	Description	Desti- Re- nation mark
参照番号	位 置	Parts 新	部品番号	部品名/規格	仕 向 備考
			KDO	C-7010D/L	
201 202 204 206 2A1	1E 3E 1H 1F 3G	* * *	A02-1421-01 A22-1209-03 A46-1210-03 A52-0651-02 A64-0027-02	PLASTIC CABINET SUB PANEL ASSY REAR COVER ASSY TOP PLATE PANEL ASSY	7010D
PA1	3G	*	A64-0028-02	PANEL ASSY	7010L
207 209 - -	2E 3G	* *	B07-2032-02 B10-1558-03 B46-0100-20 B46-0182-14 B64-0282-00	ESCUTCHEON FRONT GLASS WARRANTY CARD ID CARD INST. MANUAL(ENG, FRA, GER)	7010D
-		*	B64-0283-00	INST. MANUAL(NETH, ITA, SPA)	
212 213 214 215 216	1E 3F 3E 3E 3E 3E	*	D10-2548-14 D10-2684-24 D10-2784-24 D10-2785-14 D14-0634-04	LEVER LEVER LEVER ASSY LEVER ROLLER	
218 2 2 2	3E 1E		D21-2132-14 D39-0211-05	SHAFT DAMPER	
)C1)C3	1E 1F	*	E30-4060-05 E30-4063-05	DC CORD AUDIO CORD	
225	1F		F29-00 49- 05	INSULATING COVER	
227 228 229 230 231	3F 3E 3E 3H 3E	*	G01-2040-04 G01-2633-04 G01-2637-34 G01-2645-04 G02-1161-04	EXTENSION SPRING COMPRESSION SPRING TORSION COIL SPRING COMPRESSION SPRING SPRING	
- - - -		* *	H10-4439-02 H25-0329-04 H25-0336-04 H54-0069-04 H54-0070-04	POLYSTYRENE FOAMED FIXTURE PROTECTION BAG (280X450X0.03) PROTECTION BAG (170X250X0.03) ITEM CARTON CASE ITEM CARTON CASE	7010D 7010L
- -		*	H64-0076-04 H64-0077-04	OUTER CARTON CASE OUTER CARTON CASE	7010D 7010L
235 237 238	1E 3E 1E		J21-7425-01 J52-0037-14 J54-0059-04	MOUNTING HARDWARE MAGNET CATCH STAY	
241 242 243 244 245	3H 3H 3H 3H 3H	* * * *	K24-1198-04 K24-1199-04 K24-1200-04 K24-1201-04 K24-1202-04	KNOB(1) KNOB(2) KNOB(3) KNOB(4) KNOB(5)	
246 247 248 249 250	3H 3G 3G 3G 3G	* * * *	K24-1203-04 K24-1204-04 K24-1205-04 K24-1206-04 K24-1207-04	KNOB(6) KNOB(M.D) KNOB(T.D) KNOB(M.U) KNOB(T.U)	
251 252	3G 3G	*		KNOB(AUDIO) KNOB(ATT)	

E: Europe W: Without Europe P: Canada X: Australia
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

7010D : KDC-7010D 7010L : KDC-7010L

⚠ indicates safety critical components.

⋆ New Parts

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Ref. No.	Addres	s Nev Part	1	Description		Re-
参照番号	位 置		l	部品名/規格		備者
253 254 255 256 257	3H 3H 3H 3H 3H 3H	* * * * *	K24-1210-04 K24-1211-04 K24-1212-04 K24-1213-03 K24-1216-04	KNOB(PLAY) KNOB(EJECT) KNOB(AUTO) KNOB(TUN) KNOB(RESET)		
258 258 259 261	3H 3H 3G 3H	* *	K24-1214-03 K24-1288-03 K25-0621-04 K24-1197-04	KNOB(SDK) KNOB(PRP) KNOB(VOL.) KNOB(OPEN)	7010D 7 0 10L	
A B C D E	2E 3E 2F 3F 2E		N09-1492-05 N29-0205-04 N30-3004-46 N35-2004-45 N39-2025-46	MACHINE SCREW (2.6X3.5) RETAINING RING (1.571) PAN HEAD MACHINE SCREW BINDING HEAD MACHINE SCREW PAN HEAD MACHIN SCREW		
F G H J	3E 1H,2H 1F,2E 1E		N80-2004-46 N82-2008-45 N83-3005-46 N09-1885-05	PAN HEAD TAPTITE SCREW BINDIG HEAD TAPTITE SCREW PAN HEAD TAPTITE SCREW SEMS (MACHINE SCREW)		
ME1	2E	*	X92-1660-06	MECHANISM ASSY		
D100 107		JB C		ECHANISM ASS'Y (X13-7080-00)		
D100-103	3A		B30-1365-05	LED		
FPC3	3A		J84-0023-02	FLEXIBLE PRINTED WIRING BOARD		
R200,201	ЗА		RD14BB2C471J	RD 470 J 1/6W		
S100	3A		S40-1140-05	PUSH SWITCH		
	,	-	SWITCH U	JNIT (X13-8520-10)		
351 352 D9 -29 LCD1 PL1 ,2	2G 2G	*	B11-0848-04 B19-0925-03 B30-1349-05 B38-0584-05 B30-1305-05	OPTICAL DIFFUSER LIGHTING BOARD LED LIQUID CRYSTAL LAMP (5.5V .125A)		
PL3 ,4			B30-1306-05	LAMP (5.5V .125A)		
C1 C2 C3 ,4 C5 C6			CK73FB1H223KTA CK73FB1H681K CC73FCH1H330J CK73FB1H103K CK73FB1H223KTA	CHIP C 0.022UF K CHIP C 680PF K CHIP C 33PF J CHIP C 0.010UF K CHIP C 0.022UF K		
C7			C92-0015-05	CHIP-TAN 2.2UF 6.3WV		
353 354 355 CN1	1G 1H 1G	* * *	E29-1408-04 E29-1391-03 E29-1390-03 E59-0807-15	CONDUCTIVE RUBBER CONDUCTIVE RUBBER CONDUCTIVE RUBBER RECTANGULAR PLUG		
L1 X1			L33-0916-05 L78-0505-05	SMALL FIXED INDUCTOR RESONATOR		
R1 R2 R3			RK73FB2A513J RK73EB2B331J RK73EB2B471J RK73EB2B331J	CHIP R 51K J 1/10W CHIP R 330 J 1/8W CHIP R 470 J 1/8W CHIP R 330 J 1/8W		
R4 -6			RK73EB2B471J	CHIP R 470 J 1/8W	İ	

E: Europe W: Without Europe P: Canada X: Australia
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

PARTS LIST

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Ref. No.	Address	New Parts		Description	Desti- Re- nation mark
参照番号	位 置	新	部品番号	部品名/規格	nation mark 仕 向備考
R9 R10 R11 -13 R14 -17 R18 -21			RK73EB2B471J RK73FB2A222J RK73EB2B222J RK73FB2A222J RK73FB2A222J	CHIP R 470 J 1/8W CHIP R 2.2K J 1/10W CHIP R 2.2K J 1/8W CHIP R 2.2K J 1/10W CHIP R 2.2K J 1/10W	
R22 R23 R24 R25 ,26			RK73EB2B103J RK73FB2A222J RK73FB2A104J RK73FB2A223J	CHIP R 10K J 1/8W CHIP R 2.2K J 1/10W CHIP R 100K J 1/10W CHIP R 22K J 1/10W	
S1 -4			S70-0808-05	TACT SWITCH	
D1 -7 D8 IC1 IC2 Q1			MA8062-M DA204K 75004GB-863-3B4 LC7582E 2SA1037K	ZENER DIODE DIODE IC IC(LCD DRIVER) TRANSISTOR	
Q2 Q2			DTC144EK XDC144EK	DIGITAL TRANSISTOR TRANSISTOR	
		SUE	· · · · · · · · · · · · · · · · · · ·	CHANISM ASS'Y (X13-8530-00)	
67 70 FPC2	1 A 1 A 1 A		J21-7279-02 J90-0726-02 J84-0022-03	MOUNTING HARDWARE GUIDE FLEXIBLE PRINTED WIRING BOARD	
PH100-103	1 A		PT-461I1	PHOTO TRANSISTOR	
D.O.	E	ELE	CTRIC UNIT (X25-70 B30-1365-05	022-XX) -71 : 7010D, -72 : 7010L	
D8 C1 -4 C5 C6 C7 C8	i		C90-2765-05 CE04NW1C101M CE04NW1H0R1M CK73FB1E273KTA CE04NW1V3R3M	ELECTRO 2200UF 16WV ELECTRO 100UF 16WV ELECTRO 0.1UF 50WV CHIP C 0.027UF K ELECTRO 3.3UF 35WV	
C9 C10 C12 C13 C14			CE04CW1A101M CE04CW1C470M CK73FB1H103K CE04CW1A101M CE04CW1H010M	ELECTRO 100UF 10WV ELECTRO 47UF 16WV CHIP C 0.010UF K ELECTRO 100UF 10WV ELECTRO 1.0UF 50WV	
C15 C16 C17 C18 C20			CE04CW1A101M CK73FB1H223KTA C90-2595-05 C90-2606-05 CE04NW1H010M	ELECTRO 100UF 10WV CHIP C 0.022UF K ELECTRO 4.7UF 16WV ELECTRO 0.47UF 50WV ELECTOR 1.0UF 50WV	
C21 C22,23 C24 C25 C26			CE04CW1H010M CC73FCH1H100D CK73FB1H223KTA CE04CW1A101M CE04NW1C100M	ELECTRØ 1.0UF 50WV CHIP C 10PF D CHIP C 0.022UF K ELECTRØ 100UF 10WV ELECTRØ 10UF 16WV	
C27 C28 C29 C30 ,31 C40		*	CK73FB1H223KTA CK73EB1E104K CE04NW0J101M CK73EB1H103K CK73EB1H683K	CHIP C 0.022UF K CHIP C 0.10UF K ELECTRO 100UF 6.3WV CHIP C 0.01UF K CHIP C 0.068UF K	
C41 C42 C43	į		CEO4NW1A101M CK73FB1H223KTA C90-2610-05	ELECTRO 100UF 10WV CHIP C 0.022UF K ELECTRO 2.2UF 50WV	

E: Europe W: Without Europe P: Canada X: Australia

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Ref. No.	Address		Parts No.	D	escription		Desti- nation	Re- mark
参照番号	位 置	Parts 新	部品番号	部品	3 名/規	格		備考
C44 C46 C47,48 C49 C50			C91-2040-05 CE04NW1A101M CK73FB1H103K CC73FCH1H220J CK73FB1H223KTA	CERAMIC ELECTRO CHIP C CHIP C CHIP C	0.010UF 100UF 0.010UF 22PF 0.022UF	Z 10WV K J K		
C51 C52 C53 C54 C55			CE04CW1A101M CC73FCH1H22OJ CE04NW1A101M CK73FB1H223KTA CE04NW1A101M	ELECTRO CHIP C ELECTRO CHIP C ELECTRO	100UF 22PF 100UF 0.022UF 100UF	10WV J 10WV K 10WV		
C56 C57 C58 C59 C60			CE04CW1A101M CK73EB1E104K C90-2597-05 CK73FB1H103K C90-2595-05	ELECTRO CHIP C ELECTRO CHIP C ELECTRO	100UF 0.10UF 10UF 0.010UF 4.7UF	10WV K 16WV K 16WV	7010D 7010D 7010D 7010D 7010D	
C61 -64 C65 C66 C67 C68			C93-0026-05 CC73FSL1H560J CE04NW1E4R7M CK73DB1H154K CK73FB1H103K	CHIP C CHIP C ELECTRO CHIP C CHIP C	0.068UF 56PF 4.7UF 0.15UF 0.010UF	50WV J 25WV K K	7010D 7010D 7010D 7010D 7010D	
C69 ,70 C71 C80 C81 C82		*	C91-2050-05 CQ93AP2A332J C90-2597-05 CC73FSL1H391J CK73EB1E104K	CERAMIC POLYPRO ELECTRO CHIP C CHIP C	0.068UF 3300PF 10UF 390PF 0.10UF	Z J 16₩V J K	7010D 7010D	
C83 C84 C85 C86 C87			CE04CW1A220M CE04CW1A101M C90-2597-05 CK73FB1H223KTA CE04CW1A101M	ELECTRO ELECTRO ELECTRO CHIP C ELECTRO	22UF 100UF 10UF 0.022UF 100UF	10WV 10WV 16WV K 10WV		
C100,101 C102,103 C104,105 C108,109 C110,111			C90-2595-05 CK73FB1H183KTA C90-2597-05 C90-2595-05 CK73EB1H153K	ELECTRO CHIP C ELECTRO ELECTRO CHIP C	4.7UF 0.018UF 10UF 4.7UF 0.015UF	16WV K 16WV 16WV K		
C112,113 C118,119 C120,121 C122,123 C124,125		And the second s	CK73FB1H332K C90-2597-05 C90-2595-05 C90-2602-05 C90-2597-05	CHIP C ELECTRO ELECTRO ELECTRO ELECTRO	3300PF 10UF 4.7UF 0.1UF 10UF	K 16WV 16WV 50WV 16WV		
C126,127 C128,129 C130,131 C132,133 C134,135			C90-2595-05 CK73EB1E104K C90-2595-05 CK73FB1H152K C90-2595-05	ELECTRO CHIP C ELECTRO CHIP C ELECTRO	4.7UF 0.10UF 4.7UF 1500PF 4.7UF	16WV K 16WV K 16WV		
C136-139 C144,145 C146,147 C150-153 C156-159			C90-2597-05 C90-2597-05 C93-1036-05 C90-2597-05 CE04NW1C100M	ELECTRO ELECTRO CERAMIC ELECTRO ELECTRO	10UF 10UF 4700PF 10UF 10UF	16WV 16WV K 16WV 16WV		
CN1 CN2 CN4 CN6 CN8		* *	E58-0817-15 E40-9254-05 E40-3301-05 E58-0822-05 E40-9279-05	RECTANGULAR FLAT CABLE (PIN ASSY RECTANGULAR PIN ASSY	CONNCTOR			

E: Europe W: Without Europe P: Canada X: Australia
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- New Parts

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Ref. No.	Address No	ew Parts No.	Description	Destir Re- nation marks
参照番号	1	部品番号	部品名/規格	仕 向備考
J1 TP1 TP1 ,2 WH3	1F ×	E04-0154-05 E23-0136-05 E23-0136-05 E30-4054-05	RF COAXIAL CABLE RECEPTACLE TERMINAL TERMINAL CORD WITH PLUG (ANT)	7010L 7010D
LH1		J19-2826-05	HOLDER	
L1 ,2 L3 L4 X1 X2		L40-4791-31 L40-2201-16 L39-0156-05 L77-1167-05 L77-1166-05	SMALL FIXED INDUCTOR(4.7UH) SMALL FIXED INDUCTOR TRAP COIL CRYSTAL RESONATOR CRYSTAL RESONATOR	70100
H K L M	1F 2F 2F 2F	N83-3005-46 N30-3006-46 N30-3020-46 N83-3006-45	PAN HEAD TAPTITE SCREW PAN HEAD MACHINE SCREW PAN HEAD MACHINE SCREW PAN HEAD TAPTITE SCREW	
R2 R3 R4 R5 R6		RK73FB2A223J R92-2063-05 RK73EB2B221J RK73FB2A153J RK73FB2A432J	CHIP R 22K J 1/10W CHIP R 680 J 1/2W CHIP R 220 J 1/8W CHIP R 15K J 1/10W CHIP R 4.3K J 1/10W	
R7 R8 R9 R10 R11		RK73FB2A223J RK73FB2A102J RK73FB2A392J RK73FB2A563J RK73FB2A392J	CHIP R 22K J 1/10W CHIP R 1.0K J 1/10W CHIP R 3.9K J 1/10W CHIP R 56K J 1/10W CHIP R 3.9K J 1/10W	
R12 R24 R25 R26 R28		R92-0366-05 RK73FB2A104J RK73FB2A103J RK73FB2A102J RK73FB2A223J	CHIP R 560 J 1W CHIP R 100K J 1/10W CHIP R 10K J 1/10W CHIP R 1.0K J 1/10W CHIP R 22K J 1/10W	
R29 R33 ,34 R37 R38 R39		RK73EB2B152J RK73EB2B130J RK73FB2A391J RK73EB2B152J RK73FB2A223J	CHIP R 1.5K J 1/8W CHIP R 13 J 1/8W CHIP R 390 J 1/10W CHIP R 1.5K J 1/8W CHIP R 22K J 1/10W	
R41 R42 R43 R44 R45		RK73FB2A681J RK73FB2A183J RK73FB2A222J RK73FB2A183J RK73FB2A100J	CHIP R 680 J 1/10W CHIP R 18K J 1/10W CHIP R 2.2K J 1/10W CHIP R 18K J 1/10W CHIP R 10 J 1/10W	
R46 R47 R48 R49 R50 ,51		RK73FB2A683J RK73FB2A103J RK73FB2A473J RK73FB2A223J RK73FB2A222J	CHIP R 68K J 1/10W CHIP R 10K J 1/10W CHIP R 47K J 1/10W CHIP R 22K J 1/10W CHIP R 2.2K J 1/10W	
R52 R53 R54 R55 R56 ,57		RK73FB2A104J RK73FB2A223J RK73FB2A333J RK73FB2A472J RK73FB2A102J	CHIP R 100K J 1/10W CHIP R 22K J 1/10W CHIP R 33K J 1/10W CHIP R 4.7K J 1/10W CHIP R 1.0K J 1/10W	
R58 ,59 R60 -62 R63 R65 R66 -72		RK73FB2A103J RK73FB2A332J RK73FB2A103J RK73FB2A473J RK73FB2A102J	CHIP R 10K J 1/10W CHIP R 3.3K J 1/10W CHIP R 10K J 1/10W CHIP R 47K J 1/10W CHIP R 1.0K J 1/10W	

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Ref. No.	Address		Parts No.		Description			Desti- nation	Re- mark
参照番号	位 置	Parts 新	部品番号	部	品名/規	格			備考
R73 R74 R75 -77 R78 -81 R82			RK73FB2A103J RK73FB2A102J RK73FB2A332J RK73FB2A472J RK73FB2A103J	CHIP R CHIP R CHIP R CHIP R CHIP R	10K 1.0K 3.3K 4.7K 10K	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W		
R83 R84 ,85 R88 ,89 R90 R91			RK73FB2A473J RK73FB2A104J RK73FB2A104J RK73FB2A473J RK73FB2A473J	CHIP R CHIP R CHIP R CHIP R CHIP R	47K 100K 100K 47K 4.7K	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W		
R92 R93 -95 R96 R97 R98			RK73EB2B223J RK73FB2A104J RK73EB2B223J RK73FB2A473J RK73FB2A473J	CHIP R CHIP R CHIP R CHIP R CHIP R	22K 100K 22K 47K 47K	J J J J	1/8W 1/10W 1/8W 1/10W 1/10W	7010L 7010D	
R100 R101-108 R109,110 R111-115 R116			RK73FB2A473J RK73EB2B2222J RK73FB2A104J RK73FB2A102J RK73FB2A223J	CHIP R CHIP R CHIP R CHIP R CHIP R	47K 2.2K 100K 1.0K 22K	J J J J	1/10W 1/8W 1/10W 1/10W 1/10W		
R117 R118 R119 R120 R121			RK73FB2A473J RK73FB2A222J RK73FB2A223J RK73FB2A822J RK73FB2A472J	CHIP R CHIP R CHIP R CHIP R CHIP R	47K 2.2K 22K 8.2K 4.7K	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W		
R123 R125 R130 R131 R133			RK73FB2A472J RK73FB2A473J RK73FB2A391J RK73FB2A473J RK73FB2A684J	CHIP R CHIP R CHIP R CHIP R CHIP R	4.7K 47K 390 47K 680K	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W	7010D 7010D 7010D	
R134 R135 R136 R137 R138			RK73FB2A683J RK73FB2A182J RK73FB2A224J RK73FB2A104J RK73FB2A101J	CHIP R CHIP R CHIP R CHIP R CHIP R	68K 1.8K 220K 100K 100	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W	7010D 7010D 7010D 7010D 7010D	
R139 R140 R141 R142 R143			RK73FB2A104J RK73FB2A333J RK73FB2A244J RK73FB2A123J RK73FB2A563J	CHIP R CHIP R CHIP R CHIP R CHIP R	100K 33K 240K 12K 56K	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W	7010D 7010D 7010D 7010D 7010D	
R144 R145 R146 R147,148 R149			RK73FB2A273J RK73FB2A564J RK73FB2A101J RK73FB2A222J RK73FB2A221J	CHIP R CHIP R CHIP R CHIP R CHIP R	27K 560K 100 2.2K 220	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W	7010D 7010D 7010D	
R150 R151 R152 R153 R155			RK73FB2A102J RK73FB2A332J RK73FB2A272J RK73FB2A222J RK73EB2B102J	CHIP R CHIP R CHIP R CHIP R CHIP R	1.0K 3.3K 2.7K 2.2K 1.0K	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W		
R156 R158 R159 R160 R161-163			RK73EB2B223J RK73EB2B102J RK73EB2B223J RK73FB2A331J RK73FB2A223J	CHIP R CHIP R CHIP R CHIP R CHIP R	22K 1.0K 22K 330 22K	J J J J	1/8W 1/8W 1/8W 1/10W 1/10W	1	

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参照番号	位 置	Parts 新		品書	号	部品	名/規	格			mark 備考
R164,165 R166 R167 R168,169 R170,171			RK73FE RK73FE RK73FE RK73FE RK73FE	2A472 2A563 2A100	CHIP R CHIP R CHIP R		10K 4.7K 56K 10 10K	J J J J	1/10W 1/10W		
R172 R173 R175,176 R177 R179			RK73FE RK73FE RK73FE RK73FE RK73FE	2A6833 2A5623 2A4733	CHIP R CHIP R CHIP R		120K 68K 5.6K 47K 4.7K	J J J J	1/10W 1/10W 1/10W		
R214,215 R216,217 R218,219 R220,221 R222,223			RK73FB RK73FB RK73FB RK73FB RK73FB	2A4723 2A2233 2A2223	CHIP R CHIP R CHIP R		22K 4.7K 22K 2.2K 1.8K	J J J J	1/10W 1/10W		
R230,231 R232,233 R244,245 R246,247 R248,249			RK73FB RK73FB RK73FB RK73FB RK73FB	2A222J 2A224J 2A331J	CHIP R CHIP R CHIP R		1.2K 2.2K 220K 330 1.8K	J J J J	1/10W 1/10W 1/10W		
R252,253 R254,255 R260,261 R262,263 R264,265			RK73FB RK73FB RK73FB RK73FB RK73FB	2A392J 2A331J 2A333J	CHIP R CHIP R CHIP R	:	1.6K 3.9K 330 33K 1.1K	J J	1/10W 1/10W 1/10W 1/10W 1/10W		
R266,267 R268,269 R270,271 R272,273 R274,275			RK73FB RK73FB RK73FB RK73FB RK73FB	2A472J 2A104J 2A204J	CHIP R CHIP R CHIP R		100K 4.7K 100K 200K 8.2K	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W		
R276-279 R280-283 R284,285 R286,287 R288,289			RK73FB RK73FB RK73FB RK73FB RK73FB	2 A47 2J 2 A 681J 2 A 562J	CHIP R CHIP R CHIP R	6	100K 4.7K 580 5.6K 7.5K		1/10W 1/10W 1/10W 1/10W 1/10W		
R290,291 R292-295 R302,303 R304,305 R306,307			RK73FB RK73FB RK73FB RK73FB RK73FB	2A202J 2A472J 2A331J	CHIP R CHIP R CHIP R	2	330 2.0K 4.7K 330 22K	J J	1/10W 1/10W 1/10W 1/10W 1/10W	The state of the s	
R308,309 R310,311 R312,313 R314,315 R316,317			RK73FB: RK73FB: RK73FB: RK73FB: RK73FB:	2 A7 52J 2 A2 23J 2 A2 21J	CHIP R CHIP R CHIP R CHIP R CHIP R	2	220 7.5K 22K 220 7.5K	J J J J	1/10W 1/10W 1/10W 1/10W 1/10W		
R318 R319 VR1 ,2 VR3			RK73FB: RK73EB: R12-64: R12-64:	2B 47 3J 23-05	CHIP R CHIP R TRIM PO TRIMMING	4 T. 1	17K 17K 10K 1220)	J J	1/10W 1/8W	7010D	
S1			S62-08	03-05	SLIDE S	WITCH					
D1 -3 D4 D5 D6			ERA15-0 MA110 ERA15-0 MA8082-	01	DIODE DIODE DIODE ZENER D	I O DE					

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参照番号	位置	Parts 新	部品番号	部品名/規格		marks 備考
D7 D9 D10 D11 D12			MA8110-M RD9.1JS(B2) MA8068-M MA110 MA8062-M	ZENER DIODE ZENER DIODE ZENER DIODE DIODE ZENER DIODE		
D13 D14 D15 D16 -22 D23			DA204K MA110 MA8062-M DA204K MA110	DIODE DIODE ZENER DIODE DIODE DIODE		
D24 D27 ,28 IC1 IC2 IC3		*	DAP202K DAP202K 75116GF-G49-3BE S-80737AN-D1 M5278D05	DIODE DIODE IC IC IC(VOLTAGE REGULATOR)		
IC4 IC5 IC6 IC7 IC10-12			M5237ML LC7216M TDA1579T NJM4565MD NJM4565MD	IC(VOLTAGE REGULATOR) IC(PLL FREQ. SYNTHESIZER) IC(DECODER) IC(OP AMP X2) IC(OP AMP X2)	7010D 7010D	
IC14-18 IC19 IC20 IC21 IC24,25			NJM4565MD TC4066BF NJM4565MD TC9233FK M5201FP	IC(OP AMP X2) IC(BILATERAL SWITCH) IC(OP AMP X2) IC IC(OP AMPLIFIER)		
Q1 Q2 Q3 Q4 Q5			2SB1050 DTC114EK 2SB1370F8 2SB1277 2SA1037K	TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q6 Q6 Q7 Q8 Q9		*	DTA124EK XDA124EK DTC114EK 2SD1266BD 2SC2412K	DIGITAL TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR		
Q12 Q13 Q16 ,17 Q21 Q21		*	2SB1370F8 2SC2412K 2SB1277 DTA124EK XDA124EK	TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR		
Q22 Q22 Q23 Q23 Q24		*	DTC124EK XDC124EK DTC144EK XDC144EK DTA124EK	DIGITAL TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR		
Q24 Q25 ,26 Q25 ,26 Q27 Q28		*	XDA124EK DTC144EK XDC144EK 2SB1277 DTC124EK	TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR		
Q28 Q29 Q30 Q31 ,32 Q33		*	XDC124EK 2SA1362(Y) DTA144EK 2SC2412K DTC124EK	TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR		

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Ref. No.	Address New Part	1	Description	Desti- Re-
参照番号	位置新	l	部品名/規格	nation marks 仕 向 備考
Q33 Q34 Q35 Q36 Q36	*	XDC124EK 2SC2412K 2SK669 DTC124EK XDC124EK	TRANSISTOR TRANSISTOR FET DIGITAL TRANSISTOR TRANSISTOR	
Q37 Q37 Q38 ,39 Q40 Q40	*	DTA124EK XDA124EK 2SB1277 DTC124EK XDC124EK	DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR	7010L 7010L 7010D 7010D
Q41 Q41 Q42 ,43 Q46 Q46	*	DTA124EK XDA124EK 2SD1757K DTC124EK XDC124EK	DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR	
Q47 Q47 Q48 Q48 Q49	*	DTA124EK XDA124EK DTC144EK XDC144EK 2SC2412K	DIGITAL TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR	
Q52 -55		2SC2412K	TRANSISTOR	
			UNIT (X32-2340-00)	
C1 C2 C3 C4 C5		CK73FB1H103K CC73FCH1H220J CC73FCH1H020C CK73FB1H472K CK73FB1E473KTA	CHIP C 0.010UF K CHIP C 22PF J CHIP C 2.0PF C CHIP C 4700PF K CHIP C 0.047UF K	
C6 C7 C8 C9 C10 ,11		CC73FCH1H181J CK73FB1H223KTA CK73FB1E393KTA C92-1025-05 C92-1020-05	CHIP C 180PF J CHIP C 0.022UF K CHIP C 0.039UF K ELECTRO 0.47UF 50WV ELECTRO 10UF 6.3WV	,
C12 C13 C14 C15 C16		CK73FB1H153K CK73FB1H223KTA C92-1020-05 C92-1026-05 C92-1023-05	CHIP C 0.015UF K CHIP C 0.022UF K ELECTRO 10UF 6.3WV ELECTRO 1UF 50WV ELECTRO 22UF 4.0WV	
C18 C20 ,21 C22 ,23 C24 C25 ,26		CK73EF1C105Z CK73EF1C105Z CK73FB1E393KTA CC73FCH1H101J CK73FB1H103K	CHIP C 1.0UF Z CHIP C 1.0UF Z CHIP C 0.039UF K CHIP C 100PF J CHIP C 0.010UF K	
C27 ,28 C29 ,30 C32 C33 C35		CK73EF1C105Z CC73FCH1H330J CK73EB1E104K CK73EB1E224K CC73FCH1H560J	CHIP C 1.0UF Z CHIP C 33PF J CHIP C 0.10UF K CHIP C 0.22UF K CHIP C 56PF J	
C38 C41 C42 C45 C47		CK73FB1H102K CC73FCH1H220J CC73FCH1H330J C92-0012-05 C92-1026-05	CHIP C 1000PF K CHIP C 22PF J CHIP C 33PF J TANTAL 22UF 6.3WV ELECTRO 1UF 50WV	,
C48 C49		C92-1019-05 CK73FB1H183KTA	ELECTRO 4.7UF 16WV CHIP C 0.018UF K	

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C60 ,61 C66 C67 C68 C101			CK73EB1E104K CK73FB1H102K CK73FB1H103K CK73FB1H102K CK73FB1H331K	CHIP C 0.10UF K CHIP C 1000PF K CHIP C 0.010UF K CHIP C 1000PF K CHIP C 330PF K		
C103 C105-108 C109,110 C111,112 C113,114			CK73FB1H331K CC73FCH1H181J CK73FB1H471K C92-1019-05 C93-1044-05	CHIP C 330PF K CHIP C 180PF J CHIP C 470PF K ELECTRO 4.7UF 16WV CERAMIC 2200PF K		
C115,116 C117 C118,119 C120,121 C122			C92-1019-05 C92-1020-05 CK73EB1E104K C93-1044-05 CK73EB1E104K	ELECTRO 4.7UF 16WV ELECTRO 10UF 6.3WV CHIP C 0.10UF K CERAMIC 2200PF K CHIP C 0.10UF K		
C123 C126 C130 C131 C132			CK73FB1E473KTA CK73FB1E473KTA CC73FCH1H101J CK73FB1E473KTA C92-1020-05	CHIP C 0.047UF K CHIP C 0.047UF K CHIP C 100PF J CHIP C 0.047UF K ELECTRO 10UF 6.3WV		
CN1 CN2 CN3 CN4 CN5			E40-9251-05 E40-9244-05 E40-5266-05 E40-5294-05 E40-9256-05	FLAT CABLE CONNCTOR		
CN7			E40-9252-05	FLAT CABLE CONNCTOR		
L1 L2 L3 ,4 X1 X2			L33-0916-05 L40-1001-31 L33-0916-05 L78-0505-05 L77-2011-05	SMALL FIXED INDUCTOR SMALL FIXED INDUCTOR(10UH) SMALL FIXED INDUCTOR RESONATOR CRYSTAL RESONATOR(16.9344MHZ)		
R1 R2 R3 ,4 R5 R6			RK73FB2A102J RK73EB2B100J RK73FB2A472J RK73FB2A153J RK73FB2A910J	CHIP R 1.0K J 1/10W CHIP R 10 J 1/8W CHIP R 4.7K J 1/10W CHIP R 15K J 1/10W CHIP R 91 J 1/10W		
R7 R8 R9 R10 R11			RK73FB2A241J RK73FB2A562J RK73FB2A134J RK73FB2A822J RK73FB2A123J	CHIP R 240 J 1/10W CHIP R 5.6K J 1/10W CHIP R 130K J 1/10W CHIP R 8.2K J 1/10W CHIP R 12K J 1/10W		
R12 R13 ,14 R16 R17 R18			RK73FB2A223J RK73FB2A123J RK73FB2A331J RK73FB2A223J RK73FB2A391J	CHIP R 22K J 1/10W CHIP R 12K J 1/10W CHIP R 330 J 1/10W CHIP R 22K J 1/10W CHIP R 390 J 1/10W		
R19 R20 R21 R22 R23			RK73FB2A272J RK73FB2A122J RK73FB2A125J RK73FB2A471J RK73FB2A103J	CHIP R 2.7K J 1/10W CHIP R 1.2K J 1/10W CHIP R 1.2M J 1/10W CHIP R 470 J 1/10W CHIP R 10K J 1/10W		
R24 ,25 R26 ,27 R28			RK73EB2B222J RK73FB2A102J RK73FB2A333J	CHIP R 2.2K J 1/8W CHIP R 1.0K J 1/10W CHIP R 33K J 1/10W		

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R29 ,30 R33 R34 R35 R36		RK73FB2A154J RK73FB2A473J RK73FB2A221J RK73EB2B472J RK73FB2A562J	CHIP R 150K J 1/10 CHIP R 47K J 1/10 CHIP R 220 J 1/10 CHIP R 4.7K J 1/8W CHIP R 5.6K J 1/10	W W
R37 R38 R39 R40 ,41 R42		RK73FB2A474J RK73EB2B103J RK73FB2A103J RK73FB2A472J RK73FB2A104J	CHIP R 470K J 1/10 CHIP R 10K J 1/8W CHIP R 10K J 1/10 CHIP R 4.7K J 1/10 CHIP R 100K J 1/10	u u
R43 R44 R45 R46 R47		RK73FB2A224J RK73FB2A822J RK73FB2A272J RK73FB2A183J RK73FB2A393J	CHIP R 220K J 1/10 CHIP R 8.2K J 1/10 CHIP R 2.7K J 1/10 CHIP R 18K J 1/10 CHIP R 39K J 1/10	w w w
R48 R49 R50 R51 R52		RK73FB2A102J RK73FB2A331J RK73FB2A473J RK73FB2A224J RK73FB2A225J	CHIP R 1.0K J 1/10 CHIP R 330 J 1/10 CHIP R 47K J 1/10 CHIP R 220K J 1/10 CHIP R 2.2M J 1/10	พ พ พ
R53 R55 R57 R58 R60		RK73FB2A333J RK73FB2A103J RK73FB2A102J RK73FB2A122J RK73FB2A272J	CHIP R 33K J 1/10 CHIP R 10K J 1/10 CHIP R 1.0K J 1/10 CHIP R 1.2K J 1/10 CHIP R 2.7K J 1/10	พ พ พ
R61 -63 R65 R66 R67 R68		RK73FB2A103J RK73FB2A473J RK73FB2A104J RK73FB2A273J RK73FB2A123J	CHIP R 10K J 1/10 CHIP R 47K J 1/10 CHIP R 100K J 1/10 CHIP R 27K J 1/10 CHIP R 12K J 1/10	w W W
R69 R70 R71 R72 R73 -76		RK73FB2A183J RK73FB2A473J RK73FB2A223J RK73FB2A104J RK73FB2A223J	CHIP R 18K J 1/10 CHIP R 47K J 1/10 CHIP R 22K J 1/10 CHIP R 100K J 1/10 CHIP R 22K J 1/10	W W
R77 R78 R79 R80 R81		RK73EB2B223J RK73FB2A103J RK73FB2A332J RK73EB2B223J RK73FB2A102J	CHIP R 22K J 1/8W CHIP R 10K J 1/10 CHIP R 3.3K J 1/10 CHIP R 22K J 1/8W CHIP R 1.0K J 1/10	W
R82 -85 R86 R87 R88 R89		RK73FB2A104J RK73FB2A184J RK73FB2A333J RK73EB2B563J RK73EB2B683J	CHIP R 100K J 1/10 CHIP R 180K J 1/10 CHIP R 33K J 1/10 CHIP R 56K J 1/8W CHIP R 68K J 1/8W	<i>w</i>
R90 R91 R92 R96 ,97		RK73FB2A103J RK73FB2A333J RK73EB2B683J RK73FB2A223J RK73EB2B220J	CHIP R 10K J 1/10 CHIP R 33K J 1/10 CHIP R 68K J 1/8W CHIP R 22K J 1/10 CHIP R 22 J 1/8W	1
R99 R101-108 R109-112 R113,114 R115,116		RK73FB2A222J R92-2032-05 R92-2049-05 RK73FB2A222J RK73FB2A272J	CHIP R 2.2K J 1/107 CHIP R 4.7K D 1/107 CHIP R 8.2K D 1/107 CHIP R 2.2K J 1/107 CHIP R 2.7K J 1/107	, ,

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R117,118 R121,122 R123,124 R125,126 R127		RK73FB2A222J RK73FB2A681J RK73FB2A223J RK73FB2A103J RK73FB2A561J	CHIP R 2.2K J 1/10W CHIP R 680 J 1/10W CHIP R 22K J 1/10W CHIP R 10K J 1/10W CHIP R 560 J 1/10W	
R128 R151 R153 R154 R156		RK73FB2A102J RK73FB2A102J RK73FB2A682J RK73FB2A225J RK73FB2A221J	CHIP R 1.0K J 1/10W CHIP R 1.0K J 1/10W CHIP R 6.8K J 1/10W CHIP R 2.2M J 1/10W CHIP R 220 J 1/10W	
R157 R160 R161 R162 VR1		RK73FB2A154J RK73FB2A104J RK73FB2A103J RK73FB2A125J R12-6421-05	CHIP R 150K J 1/10W CHIP R 100K J 1/10W CHIP R 10K J 1/10W CHIP R 1.2M J 1/10W TRIM POT 4.7K	
VR2 W1 -7 W9 ,10 W11 -25 W31 -34		R12-6429-05 R92-2052-05 R92-2052-05 R92-2053-05 R92-2052-05	TRIMMING POT.(100K) CHIP R 0 J 1/10W CHIP R 0 J 1/10W CHIP R 0 J 1/8W CHIP R 0 J 1/10W	
W 50		R92-2052-05	CHIP R 0 J 1/10W	
D1 D2 D3 D4 D6 -13		MA110 MA8062 MA110 MA8091 MA110	DIODE ZENER DIODE DIODE ZENER DIODE DIODE	
IC1 IC2 IC3 IC5 IC6		TA8191F TC9236AF AN8388SR TA7291F 75008GB-696-3B4	IC(RF AMP , SERVO) IC(SIGNAL PROCESSOR) IC(MOTOR DRIVER) IC(LOADING) IC(MECHANISM MICROCOMPUTER)	
IC7 IC8 ,9 IC11 IC12 IC13	*	SM5871AS NJM5532MD TA78L05F TC7SU04F TC74AC04F	IC(D/A CONVERTER x8 OVER SAM) IC(OP AMP) IC(5V VOLTAGE REGULATOR) IC(INVERTER) IC(INVERTER)	
IC16 IC17 Q1 Q2 Q3		TC7SU04F TC74AC04F 2SB624(BV3) 2SA1037K DTC124EK	IC(INVERTER) IC(INVERTER) TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR	
Q4 Q5 Q7,8 Q9 Q10		2SC2412K DTA124EK DTC114YK 2SA1037K 2SC2412K	TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR	
Q11 Q12 Q13 Q14 Q15	*	DTC114YK DTC124EK 2SA1362(Y) 2SD1624 DTA124EK	DIGITAL TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR	
Q16 ,17 Q18 -20 TH1		2SD1757K DTC124EK NT732BTD33K	TRANSISTOR DIGITAL TRANSISTOR THERMISTOR	

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参照番号	位 置	Parts 新	部品番号	部品	名/規	格	marks 備考
	POWER AMPLIFIER UNIT (X85-3000-10)						
C1 ,2 C5 ,6 C7 -10 C11 ,12 C15 ,16			C90-2552-05 C90-2564-05 CK73FB1E473KTA C90-2564-05 C90-2564-05	ELECTRO ELECTRO CHIP C ELECTRO ELECTRO	47UF 100UF 0.047UF 100UF 100UF	16WV 16WV K 16WV 16WV	
C17 -20 C21 -24			CK73EB1H104K CK73FB1H102K	CHIP C	0.10UF 1000PF	K K	
CN1 W1 -8		*	E40-9277-05 E31-5000-05	PIN ASSY JUMPER WIRE			
401	2F	*	F01-1417-03	HEAT SINK			
N P	2F 2F		N89-3006-46 N83-3008-45	BINDING HEAD PAN HEAD TAP	TAPTITE TITE SCRE	SCREW EW	
R1 -4 R5 -8 R9 -12 R13 -16 W12 -15			RK73FB2A201J RK73FB2A331J RK73EB2B2R2J RK73FB2A681J R92-2053-05	CHIP R CHIP R CHIP R CHIP R CHIP R	200 330 2.2 680	J 1/10W J 1/10W J 1/8W J 1/10W J 1/8W	
W16			R92-2052-05	CHIP R	0	J 1/10W	
IC1 ,2			AN7174K	IC(AF AMP)			
0.1	TUNE	RL	JNIT (X86-3012-XX				
C1 C2 C3 -5 C6 C7			CK73FB1H223KTA CK73EB1E104K CK73FB1H223KTA CK73FB1H472K CK73FB1H223KTA	CHIP C CHIP C CHIP C CHIP C	0.022UF 0.10UF 0.022UF 4700PF 0.022UF	K K K K	
C8 C9 C10 C11 C12			CK73EB1H472K CK73FB1H223KTA CK73EB1E104K CK73EB1H103K CE04NW1H010M	CHIP C CHIP C CHIP C CHIP C ELECTOR	4700PF 0.022UF 0.10UF 0.01UF 1.0UF	K K K K 50WV	
C13 C14 C15 C16 C17			C92-0004-05 CK73EB1H333K C92-0002-05 CE04NW1C100M CK73FB1H561K	ELECTRO CHIP C CHIP TAN ELECTRO CHIP C	1.0UF 0.033UF 0.22UF 10UF 560PF	16WV K 35WV 16WV K	
C18 C19 C20 C21 C22			CK73FB1H102K CK73EB1E104K C92-0004-05 C92-0003-05 CK73EB1H473K	CHIP C CHIP C ELECTRO CHIP TAN CHIP C	1000PF 0.10UF 1.0UF 0.47UF 0.047UF	K K 16WV 25WV K	
C23 ,24 C25 C26 C27 ,28 C29			CK73FB1H223KTA CK73FB1H222K CE04NW1C100M CK73EB1H473K CK73EB1E104K	CHIP C CHIP C ELECTRO CHIP C CHIP C	0.022UF 2200PF 10UF 0.047UF 0.10UF	K K 16WV K K	
C30 C31 C32 C33 C34			CK73FB1H221K C92-0004-05 CE04NW1A101M CK73FB1H223KTA CC73FCH1H220J	CHIP C ELECTRO ELECTRO CHIP C CHIP C	220PF 1.0UF 100UF 0.022UF 22PF	K 16WV 10WV K J	

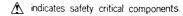
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C35 C36 C37 C38 C39			CK73EB1E104K C92-0514-05 C92-0001-05 CK73EB1E104K CK73FB1H561K	CHIP C 0.10UF K CHIP TAN 2.2UF 10WV CHIP TAN 0.1UF 35WV CHIP C 0.10UF K CHIP C 560PF K		
CN1 CN2 TP1			E40-3391-05 E40-3394-05 E40-3445-15	PIN ASSY PIN ASSY SOCKET FOR PIN ASSY		
CF1 ,2 L1 T1 X1			L72-0716-05 L40-2291-31 L30-0715-05 L78-0506-05	CERAMIC FILTER SMALL FIXED INDUCTOR(2.2UH) FM IFT RESONATOR		
R1 R2 R3 R4 R5		10. 10. 10. 10. 10. 10. 10. 10. 10. 10.	RK73EB2B100J RK73FB2A102J RK73FB2A223J RK73FB2A222J RK73EB2B100J	CHIP R 10 J 1/8W CHIP R 1.0K J 1/10W CHIP R 22K J 1/10W CHIP R 2.2K J 1/10W CHIP R 10 J 1/8W		
R6 R7 R8 R9 R10			RK73FB2A222J RK73FB2A561J RK73FB2A331J RK73FB2A270J RK73FB2A271J	CHIP R 2.2K J 1/10W CHIP R 560 J 1/10W CHIP R 330 J 1/10W CHIP R 27 J 1/10W CHIP R 270 J 1/10W		
R11 R12 ,13 R14 R15 ,16 R17			RK73FB2A331J RK73FB2A332J RK73FB2A682J RK73FB2A103J RK73FB2A223J	CHIP R 330 J 1/10W CHIP R 3.3K J 1/10W CHIP R 6.8K J 1/10W CHIP R 10K J 1/10W CHIP R 22K J 1/10W		
R18 ,19 R20 R21 ,22 R23 R24			RK73FB2A683J RK73FB2A102J RK73FB2A103J RK73FB2A472J RK73FB2A103J	CHIP R 68K J 1/10W CHIP R 1.0K J 1/10W CHIP R 10K J 1/10W CHIP R 4.7K J 1/10W CHIP R 10K J 1/10W		
R25 R26 R27 R28 R29			RK73FB2A104J RK73FB2A223J RK73FB2A100J RK73FB2A152J RK73FB2A751J	CHIP R 100K J 1/10W CHIP R 22K J 1/10W CHIP R 10 J 1/10W CHIP R 1.5K J 1/10W CHIP R 750 J 1/10W		
R30 R31 VR1 ,2 VR3 W1 -3			RK73FB2A133J RK73FB2A103J R12-3685-05 R12-3127-05 R92-2053-05	CHIP R 13K J 1/10W CHIP R 10K J 1/10W TRIMMING POT.(10K) TRIMMING POT.(10K) CHIP R 0 J 1/8W		
D1 IC1 Q1 Q1 Q2		*	MA110 TA2027F1 DTC124EK XDC124EK 2SC2413K	DIODE IC DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR		
Q3 Q3 Q4 Q4 Q5		*	DTC124EK XDC124EK DTA124EK XDA124EK 2SC2412K	DIGITAL TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR		
TU1 TU1	2F 2F	*	W02-1390-05 W02-1391-05	FM/AM FRONT-END FM/AM FRONT-END	7010D 7010L	

E: Europe W: Without Europe P: Canada X: Australia
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada



PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnes dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	New Parts	1	Description	Desti-	Re-
参照番号	位置	新	部品番号	部品名/規格		mark 備考
			MECHANISM	1 ASS'Y (X92-1660-06)		1
1 2 3	3A 3D 1C		A10-2122-32 A10-2124-63 A10-2198-02	CHASSIS CALKING ASSY CHASSIS ASSY CHASSIS		
6 7 8 9	2B 2B,3B 2A 2A 2A		D10-2693-24 D10-2695-14 D10-2696-23 D10-2697-24 D10-2698-34	LEVER LEVER LEVER LEVER ARM ASSY		
12 13 14 16	2D 2D 2C 1C 2A		D10-2700-04 D10-2701-04 D10-2702-34 D10-2787-03 D10-2716-23	ROD ROD LEVER ASSY LEVER LEVER ASSY		
20 21 22 23 24	3B 2B 2C 2C 2C 2B		D12-0604-23 D12-0605-33 D13-1029-24 D13-1030-24 D19-0605-14	CAM CAM GEAR GEAR CLUTCH ASSY		
25 26 27 28 29	2A 2B 2B 2B 3A	*	D13-1040-04 D13-1042-44 D13-1043-14 D13-1044-24 D13-1083-04	GEAR GEAR GEAR GEAR WORM		
30 31 32 33 34	2A 1A 2A 2B 1A	* *	D13-1084-04 D13-1085-24 D13-1086-03 D14-0622-04 D14-0633-04	GEAR GEAR LACK (GEAR) ROLLER ASSY ROLLER		
35 36 37 38 39	2A 2D 3A 1A 3A		D14-0624-13 D21-2109-14 D21-2111-44 D23-0905-24 D23-0910-14	ROLLER SHAFT ASSY SHAFT ASSY RETAINER RETAINER		
40	3C,3D		D39-0212-03	DAMPER		
41	2C		F20-1708-14	INSULATING SHEET		
42 43 46 47 48	2A 2C 1C 2B 3A		G01-2584-04 G01-2585-04 G01-2588-04 G01-2590-04 G01-2591-14	EXTENSION SPRING EXTENSION SPRING EXTENSION SPRING EXTENSION SPRING EXTENSION SPRING		
49 50 51 52 53	3A 1C 2D 2C 2C		G01-2605-04 G01-2630-04 G02-1136-14 G02-1138-04 G02-1139-14	EXTENSION SPRING TORSION COIL SPRING FLAT SPRING FLAT SPRING FLAT SPRING FLAT SPRING		
54 55 55A 56 57	2D 1C 1C 2A 3A	*	G02-1140-03 G02-1159-04 G02-1160-04 G02-1156-04 G02-1157-04	FLAT SPRING ASSY FLAT SPRING FLAT SPRING FLAT SPRING FLAT SPRING FLAT SPRING		
			H25-1103-04	PROTECTION BAG (200X250X0.05)		

E: Europe W: Without Europe P: Canada X: Australia

× New Parts

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Les articles non mentionnes dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address			Description	Desti-	Re-
参照番号	位 置	Parts 新	部品番号	部品名/規格		marks 備考
58 59 60 62 63	2C 2C 3B 3C,3D	*	J11-0603-13 J12-0662-04 J12-0663-04 J19-4411-14 J19-4412-03	CLAMPER PIN PIN HOLDER HOLDER		
64 65 66 69 FPC1	2B 3A 2A 2C 2C		J21-7268-24 J21-7270-03 J21-7271-14 J30-1014-14 J84-0021-03	MOUNTING HARDWARE ASSY MOUNTING HARDWARE MOUNTING HARDWARE ASSY SPACER FLEXIBLE PRINTED WIRING BOARD		P. Land
FPC4	3B		J84-0028-03	FLEXIBLE PRINTED WIRING BOARD		
A B C D E	1C,1D 2C,3A 2D 2C 3C,3D		N39-2025-46 N09-4023-05 N39-1728-46 N80-2006-46 N09-4086-05	PAN HEAD MACHIN SCREW MACHINE SCREW (M2X3) PAN HEAD MACHIN SCREW PAN HEAD TAPTITE SCREW TAPTITE SCREW (2X 8,B TITE)		
F G H J	2A,2B 1A 2C 3C		N19-2022-04 N19-2023-04 N39-1722-45 N09-4046-05	FLAT WASHER FLAT WASHER PAN HEAD MACHIN SCREW TAPTITE SCREW (2X8,P TITE)		
S1	2C		S40-1112-05	PUSH SWITCH		
M1 M2 M3 PU1	2C 2C 2A 2D		T42-0704-15 T42-0718-05 T42-0721-05 T25-0202-15	DC MOTOR MOTOR ASSY DC MOTOR OPTICAL PICKUP HEAD		
	Provide the second seco					

E: Europe W: Without Europe P: Canada X: Australia
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

SPECIFICATIONS

Disc section

GaAlAs (λ=780nm)
8 times over sampling
1 bit (with D.P.A.C.)
500rpm ~ 200rpm (CLV)
Below measurable limit
10Hz ~ 20kHz (±1dB)
0.01% (at 1kHz)
93dB
96dB
85dB

FM tuner section

Frequency range	87.5MHz ~ 108.0MHz
Channel space	50kHz
Usable sensitivity	12dBf (1.1 μ V / 75 Ω)
50dB quieting sensitivity	15.2dBf (1.6 μ V / 75 Ω)
Frequency response	30Hz ~ 15 kHz (± 1 dB)
Signal to noise ratio	73dB
Selectivity	70dB
Capture ratio	1.5dB
Stereo separation	40dB (at 1kHz)

MW tuner section

Frequency range	531kHz ~	1611kHz
Channel space		9kHz
Usable sensitivity		27dBµ

LW tuner section (KDC-7010L)

Frequency range	. 153kHz ~	281kHz
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Audio section

Max power output	25\A/ × 2 / 9\A/ × 4
Power output	
· · · · · · · · · · · · · · · · · · ·	
(49	2, 30HZ ~ 20KHZ, 1%(HD)
Tone action	
Bass	±8dB (100Hz)
Treble	±8dB (10kHz)
Pre-out level	0.8V (10kΩ)

14.4V (11 ~ 16)
5.0A
10°C ~ 50°C
182 x 52 x 163 (mm)
1.8kg (4.0LBs)

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note:

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Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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